

UNIVERSITÉ DE GENÈVE
INSTITUT UNIVERSITAIRE DE HAUTES ÉTUDES INTERNATIONALES

TRADE CONTROL IN EAST EUROPE

THÈSE

présentée à l'Université de Genève
pour l'obtention du grade de docteur ès sciences politiques

par

Harriet MATEJKA

de

GENÈVE (Suisse)

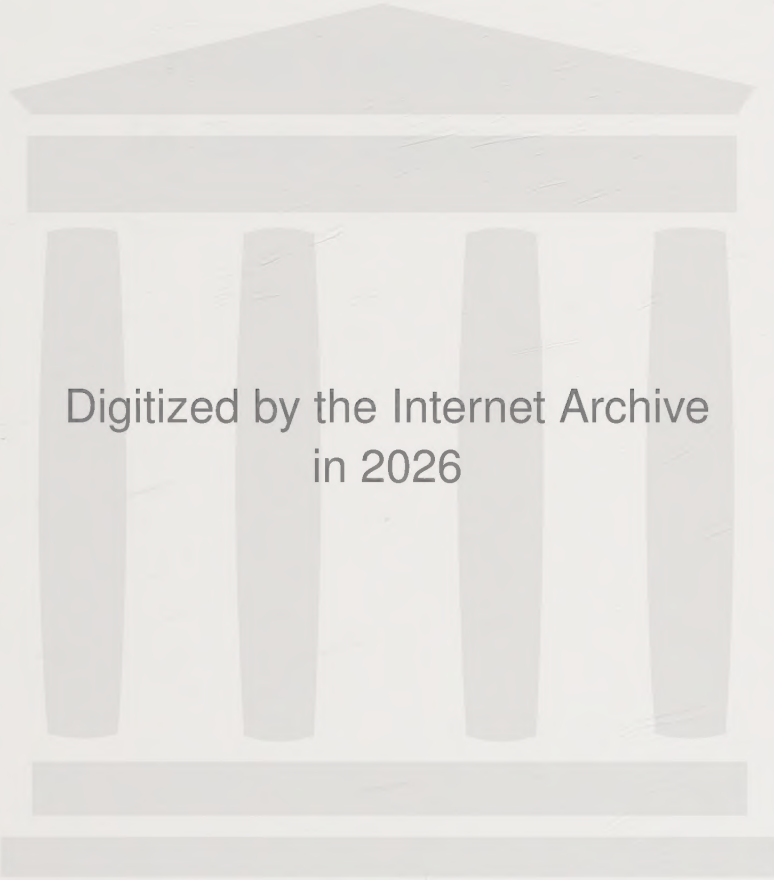
Thèse No 265

1973
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GENÈVE

Editions Médecine et Hygiène

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La Commission mixte, composée des doyens des facultés de droit, des lettres, et des sciences économiques et sociales, et du directeur de l'Institut universitaire de hautes études internationales, sur le préavis de Monsieur Jacques L'Huillier, professeur à l'Université et à l'Institut, de Monsieur Gérard Curzon, professeur à l'Institut, et de Monsieur Jan Tumlr, ancien professeur invité à l'Institut, autorise l'impression de la présente thèse, sans entendre par là exprimer d'opinion sur les propositions qui y sont énoncées.

Genève, le 23 juillet 1973

Pour la Commission mixte :
Jacques Freymond
Directeur de l'Institut universitaire

Thèse No 265



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INTRODUCTION

The study examines the control of trade in Eastern Europe the changes it has undergone as a result of the economic reforms which have been introduced since 1963, and the implications of those changes for the international commercial policy problems of East-West trade.

The frame of analysis is trade theory. Foreign trade control in East Europe is thus explored in terms familiar to the Western student of economics. It is presented so as to allow a comparison between the East European and other foreign trade systems. Where no direct correspondence between East European and Western practice exists, an attempt has been made to extend trade analysis to embrace the new concept. An instance of this is the discussion of the equivalence of tariffs, quotas and trade targets.

Within trade theory, the focus is on commercial policy. Over half the study is devoted to the positive and normative analysis of foreign trade policy instruments and trading systems in East Europe. Less attention is paid to the objectives of commercial policy in the area. The 'autarky' issue, however, is raised and refuted. The implications of foreign trade reform for the international commercial policy problems, which arose because of differences in the methods of trade control in East and West, are discussed at some length. This is true, in particular, of discrimination and reciprocity.

The approach of the study is descriptive and analytic. Little quantification has been attempted. This is chiefly because of the difficulty of obtaining quantitative data relating to the foreign trade system. But a second reason is the generally gradual, often recent, implementation of the foreign trade reforms: in most countries measures affecting the rate of divergence between domestic and foreign prices, for instance, are only in the process of being taken. Tables showing the evolution of East European trade by main areas of origin and destination between 1946 and 1969 are presented, however. A rough estimate of the cost of protection in the smaller East European countries before the reforms is also included.

Because of its technical nature, the study neglects ideological issues. But they cannot be altogether ignored. Ideology enters into the consideration of price determination, reform models, the objective of commercial policy. A short appendix, moreover, is devoted to the continued existence of the foreign trade monopoly given the changed organization of trade.

Geographically, the study embraces the whole of Eastern Europe with the exception of Albania and Yugoslavia. This allows the identification of trends common to the area as a whole. It has, however, meant less attention to detail than concentration on a single country would have permitted.

The chapters are ordered as follows :

Chapter I considers foreign trade control before the reforms. It briefly surveys the planned system and the determination of domestic prices. It describes the integration of foreign trade into the national plan and shows the isolation of the East European economy arising out of the organization of trade and the combined use of trade targets and equalizing taxes and subsidies. It presents an estimate of the economic cost of this system and discusses East European attempts to reduce it by calculating the efficiency of exports and imports. It considers and rejects the hypothesis that the object of commercial policy during this period was self-sufficiency and suggests that it was economic development. A final section is devoted to a discussion of the factors which prompted reform.

Three appendices discuss the cost of protection ; the calculation of domestic resource cost and comparative advantage in East Europe ; and 'autarky'.

Chapter II develops symmetrically to the first part of chapter I and considers the incidence of reform on the domestic economy. It classifies the possible reform models. It shows that the efficiency sought through reform could be achieved either in a centralized or decentralized system, but that there is a cost attached to central allocation. It identifies the emerging reformed systems in terms of the initial classification and finds that they are all characterized by a decentralization of microeconomic decisions and, with one exception, price reform. The trend suggests an explanation of the evolution of economic systems which serves to formulate a number of predictions concerning decentralization in East Europe.

Two appendices consider economic efficiency in the free market and under central allocation, and enterprise independence and profit maximization under the reformed system.

Chapter III considers foreign trade reform. It relates it both to domestic reform and to the traditional control of trade. In relation to the first it shows that, while trade efficiency could be achieved by combining different domestic and foreign trade systems, it is sought within the same framework as domestic efficiency. With respect to the second, it shows that the isolation of the East European economies is being broken down by decentralizing foreign trade, liberalizing trade control and, except in the USSR, introducing an automatic connection between domestic and foreign prices. The implications of these changes for the level of protection and the efficiency of trade are discussed. The object of commercial policy in East Europe at present is considered. The chapter closes with some conclusions concerning the future evolution of foreign trade systems in Eastern Europe.

Five appendices are devoted to policies for the efficiency of trade in the single country ; state-trading, shown to be an object, not, as often stated, an instrument, of trade control ; trade control and the automatic linking of domestic and foreign prices ; the equivalence of tariffs, quotas, and trade targets ; and the monopoly of trade.

Chapter IV considers the implications of foreign trade reform for the international commercial policy problems of East-West trade. It shows that the

reforms have lessened, and sometimes removed, the grounds for the Western objection to the application of most-favoured-nation tariffs to imports from East Europe. It concludes that there nevertheless remain important obstacles to trade on the East European side, namely excessive centralization, high protection and the inconvertibility of the East European currencies.

The appendix discusses reciprocity and reciprocity formulas.

The thesis which runs through the study is that the changes in economic system and commercial policy now apparent in the East European countries are not temporary departures from an essentially centralized system, but part of an evolution away from centralization and protection. The conclusion follows from the long-term economic policy objective of the East European countries and from the cost attached to centralization. The first is essentially Lenin's, that is development to a level enabling the East European countries to catch up and overtake the developed economies. Initially pursued through forced industrialization within a command system, this now requires, given structural change and full employment, an improvement in the efficiency of resource use, appropriate accumulation and technical progress. None of these can be achieved within the traditional centralized system but require price reform and, given East European conditions, decentralization. Moreover even if, as is conceivable, they could be achieved within a centralized system, the cost attached to centralization would prompt authorities concerned with efficiency to decentralize. The changes now taking place within the East European economies are therefore necessary to the achievement of these countries' long-term economic policy objective and, as such, must be expected to continue even though they may be subject to alterations in pace or to temporary reversals.

The study draws a second conclusion. It is that the present would seem to be an appropriate moment to negotiate a reduction of trade barriers between East and West. The emphasis on efficiency and innovation in East Europe stresses the importance of trade. But the high cost of protection as well as the other obstacles to trade there are inconsistent with the objective of improved efficiency and expanded trade. The East Europeans should therefore be willing to exchange a reduction in their own trade barriers for a reduction in what remains of Western discrimination as well as for increased access to Western credits and technology.

CHAPTER ONE

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CHAPTER ONE

TRADE CONTROL BEFORE THE REFORMS

I.

CENTRAL ALLOCATION

Introduction

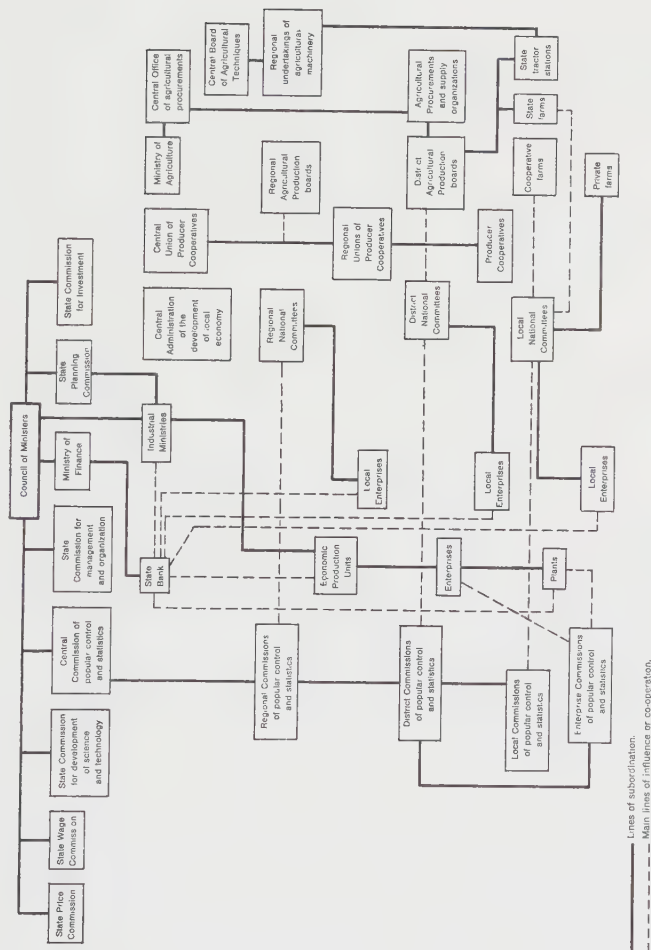
The economic system which evolved from the first Soviet five-year plan and which was adopted throughout Eastern Europe after the second world war, was central allocation for production and trade with, on either side of the centrally allocated sector, a regulated market for consumer goods, and another for labour. ^{1/} To allocate resources, the central authority and the hierarchy of agencies beneath it drew up a series of balances, or plans, which distributed supply amongst the uses to which it was to be put. The plan of each agency established targets, or directives, for the agency below it. Hence, starting with the Council of Ministers, the plan was broken down into successively more detailed units, and directives were transmitted downwards until they reached the ultimate grade in the organization which was the producing or trading enterprise. If we except consumer goods and labour, therefore, the system sketched here was central direct allocation or, as it has come to be called, a command economy.

Directives fulfilled a dual function. They performed the task accomplished by the market in a market system, that is they allocated resources. But they were also the instruments by which the economic authority controlled the economy. Thus, in contrast to the authorities of a market economy which have no apparatus to allocate resources but only one to regulate the market, the authorities of the command economy had an apparatus to allocate resources but no separate instruments to control the economy. Internal equilibrium, external equilibrium as also commercial policy were all achieved by target. To understand East European trade control, as well as its short-comings and the reform it underwent, it is necessary, therefore, to begin by briefly considering the directive system in general.

The Plan Hierarchy

Eastern Europe after the second world war is often thought of as a unit, and the economic organization of the lesser East European countries merely as small-scale reproductions of the Soviet system. This is too simple a view, for national preferences resulted in modifications of the system, especially

STRUCTURE OF PLANNING AND ADMINISTRATION OF INDUSTRY AND AGRICULTURE IN CZECHOSLOVAKIA IN 1963



Source : United Nations Economic Commission for Europe :
Economic Survey of Europe in 1962 - Part 2 :
Economic Planning in Europe. Geneva, United
Nations, 1965 ; Chapter VI, p. 13

The reserves referred to were maintained by the authorities for emergency purposes. The 'other' supplies included the use of scrap materials. The quantities of input were determined by the use of technical coefficients.

Except in the case of machinery and equipment, for which they were drawn up in both value and volume terms, the balances were usually drawn up in physical units.

In addition to these partial balances, the planning authorities made use of two aggregate balances, the national income balance and the consolidated balance of material supplies and allocations. Both were drawn up in value terms at users', or consumers', prices. The first was in fact the balance of net material product, that is net product minus unproductive services. ^{3/} On the supply side, this was shown according to origin, that is industry, construction, agriculture, transport and telecommunications, domestic trade, foreign trade ^{4/}, and other material production. On the allocation side, it was broken down according to destination, that is fixed capital accumulation, stock accumulation, personal consumption (including the material content of services), public consumption, and the balance of trade.

The second was the consolidated balance of product supplies and allocations. Whereas the national income balance was used in the formulation of the first five-year plan, the consolidated balance was introduced only with the formulation of the fifth Soviet five-year plan, and was then quickly adopted in the other East European countries. The balance was estimated gross, that is including depreciation and, given East European accounting principles, also in terms of gross output instead of value added. Supply was broken down as in the case of the national income balance, except that imports were added. Each source of income, that is industry, construction and so on, was then allocated between inputs, depreciation, consumption, investment, exports and current losses. The whole made up what can best be described as a national material balance broken down according to national accounting aggregates.

Use was also made of financial balances, of which the most complete was the aggregate financial plan. This presented the sources and uses of funds in the public sector for a given plan period.

Finally, to this series of flow balances, the authorities added two stock balances. The first was the manpower balance which showed total manpower resources, including non-active groups on the supply side, and the distribution of the gainfully employed by branch and sector, as well as the 'reserve' population, on the allocation side. The second, was the fixed capital balance, which was established on both a gross and a net basis. Changes in volume were assessed gross, changes in value net. Both were year-end balances.

On the face of it, therefore, the central authorities possessed a complete set of tools for ascertaining the resources at their disposal and distributing them amongst their various uses. But, in fact, this was far from true. The chief difficulty lay in the lack of economic information generally and of statistics in particular. Statistical returns were incomplete, but also drawn up for administrative rather than economic purposes and for classes of, rather than for single,

products. As a result material balances covered only a part of production, although their numbers did increase until the middle of the nineteen-fifties. ^{5/} Further, they were often drawn up for groups of products on the basis of a common physical denominator which made them useless as an instrument for determining supply and allocation. Finally, they omitted indirect uses. A Soviet example, cited by Nove ^{6/}, indicates the order of magnitude of the error which could be introduced by such omissions : on the basis of 1957 figures it was calculated that the production of a ton of aluminium made direct use of 18,950 kwh of electricity, but that the electricity required by the other inputs, such as chemicals, into the aluminium industry, raised this by some 20 per cent. It is interesting to note that this calculation was one of twenty-four experimental computations undertaken as late as 1959 to establish complete balances, that is balances including the indirect use of materials.

Hence the material balance, the essential instrument of East European planning, was defective. As a result the East European authorities were unable to draft a consistent plan. At best they had to content themselves with roughing out estimates of supply and allocation for priority sectors and then relying on inspired improvisation, campaigns, the existence of non-priority sectors and of central reserves of certain key products to make their system of central direct allocation work at all. The situation prompted Leontief's famous indictment that "So far as the Russian technique of economic planning is concerned, one can apply to it in paraphrase what was said about the talking horse : the remarkable thing about it is not what it says, but that it speaks at all. Western economists have often tried to discover 'the principle' of the Soviet technique of planning. They never succeeded, since up to now, there has been no such thing." ^{7/}

The lack of information, which meant that the authorities of the East European countries could not establish a consistent set of material balances, meant also that they could not build up the input-output tables which would have provided them with the general equilibrium framework to which the material balances were a partial approximation. But there were other reasons for the neglect of input-output analysis. Bureaucratic inertia, low levels of mathematical training and the scarcity of computers were three. A fourth was ideology : input-output techniques were 'bourgeois economics' and therefore inapplicable to socialist economies.

In the course of the argument over mathematical techniques which developed as from 1956 it was discovered, however, that the originator of input-output analysis was born and educated in Russia, and that he had written an article on the newly compiled balance of the Russian economy in 1925. By the end of the nineteen-fifties, it was being acknowledged that input-output analysis was not un-Marxist. By the beginning of the nineteen-sixties, historical tables for 1955, 1957 and 1959 had been elaborated in the USSR. In 1962, input-output tables were used in both East Germany and the USSR to test the consistency of the annual plan established by traditional methods, and by the second half of the nineteen-sixties all the East European countries had established input-output tables. ^{8/} Paradoxically therefore, the East Europeans acquired the instrument necessary for consistent planning just as the reforms were reducing the scope of central allocation. ^{9/}

The Plans

The plans elaborated with the help of the preceding instruments were of two kinds. Both were mandatory for all grades within the planning hierarchy, but only the second was elaborated at all levels within the system. The first were the five and seven-year plans, which determined the broad lines of development of the economy. They were not operational, in the sense that they did not produce the instructions which determined the activity of the producing and trading enterprises. The second were the annual plans which were operational and, as such, constituted the chief instrument of management of the economy. Established within the constraints imposed by the medium-term plans, their formulation was described as follows.

About six months before the beginning of the plan year, the State Planning Commission elaborated a draft plan and sent the resulting control figures to the foreign trade ministry and, depending on the organization of the economy, to either the regional councils or the industrial ministries. These disaggregated the plan which they had received and passed down control figures to the associations of enterprises or enterprises below them. On the basis of the control figures handed down to them, the producing enterprises estimated their needs for raw materials, intermediate products and imports ^{10/} and sent their plans up to the authority immediately above them. Meanwhile, the foreign trade enterprises began to negotiate import and export contracts with foreign trade partners and, on the basis of both these and the control figures they had received, to establish the 'goods/country plan', which indicated trade by commodity broken down according to the broad direction of shipments. This plan related the national foreign trade plan to the material balances. In turn, the foreign trade enterprises passed their estimates up to the Ministry of Foreign Trade.

On reception of the revised figures which they had received from the enterprises and associations, the regional councils or ministries checked and aggregated the figures and sent them up to the Planning Commission. The Commission then equated supply and demand either by adjusting domestic production and demand or by increasing imports. If a decision to change the trade figures was taken the revised figures were passed down to the foreign trade enterprises which, while pursuing their negotiations, began at this stage to elaborate the 'country/goods plan' which indicated trade by country broken down according to broad commodity groups. This plan related the foreign trade plan to the trade contracts.

Once the Planning Commission had brought the plans of the Ministry of Trade and the various producing authorities into agreement, the national plan was completed and passed up to the Council of Ministers for approval. Once this had been obtained the national plan became the basis for the instructions sent down the hierarchy again to the associations and enterprises, and which it was their duty to carry out.

The instructions received by the producing enterprises related to output, development and new techniques, investment in plant and machinery, material inputs, employment and wages, the cost of production, and the financial balance. ^{11/} But the success of the enterprise was gauged essentially by the fulfilment of the instructions relating to output, that is the output plan, expressed

in volume or value terms. Hence, it was overwhelmingly to the expansion of output that management and labour premia were related. Towards the end of the nineteen-fifties, however, this was modified to some extent, so that while the payment of premia continued to depend upon the fulfilment of the output plan, their amount came increasingly to be determined by other factors such as cost reduction and the improvement of quality. The instructions and material inducements received by the foreign trade enterprises, or corporations, are considered in detail in Part II.

Just as the apparent completeness of planning instruments noted in the preceding section was misleading, so the smooth process just outlined, whereby orders went out from the center to the periphery which had a material interest in carrying them out, and information returned from the periphery to the center, put a gloss on reality. In fact, the management of the economy tended to take place in a succession of jars and jolts. This was partly due to inconsistent planning as previously indicated. For the inability to establish a master-plan meant that central direction took the form of a succession of provisional figures for priority sectors which underwent continuous revision as additional information was obtained. As a result, the national plan was often published well after the beginning of the plan period, and producing and trading enterprises found themselves improvising on the basis of provisional instructions. Furthermore, the incompleteness of the information at the planners disposal meant that hurried emergency adjustments had repeatedly to be initiated to ensure that targets in the priority sectors were fulfilled. The result were 'campaigns' which became a feature of the system and earned it the name of 'hurrah planning'.

Irregular production was not only due to inconsistent planning, however. It was also due to the need to carry out instructions within the plan period. Economic activity thus tended to be concentrated in the few months or weeks immediately before the end of the plan period and to be followed by a slack period of often disorganized activity. This was the phenomenon known as 'storming' which had a detrimental effect on trading activity as we shall see.

These two sources of disorganization, inconsistent planning and producing to deadlines, were causes of waste, to which we must add a third. This was imprecise instructions. The objective of the enterprises, as noted was to fulfil their production targets expressed in volume or value terms. The targets were thus indicators of output rather than precise definitions of the production required and as a result they led to distortions. It was found, for instance, that when indicators were expressed in weight, production tended to be too heavy. There are many examples of this. Krutschev cited the case of chandelier production which, expressed in tons, resulted in chandeliers which were overweight. ^{12/}

Cement blocs whose production was subject to indicators expressed in tons tended to be too large, roofing metal to be too heavy. On the other hand, indicators expressed in meters led to output which was too narrow in the case of cloth and too thin in the case of metal. Indicators in gross value led to different distortions. In the first place, they encouraged the use of expensive inputs and, as we note in the next part, of imports. In the second place, they tended to discourage the production of spare parts, since their gross value was

smaller than that of the completed product. ^{13/} By the end of the nineteen-fifties, therefore, a 'synthetic' indicator was being sought which would measure the economic activity of the enterprise without causing the distortions and waste resulting from the partial indicators used until then. Note, however, that the difficulties which the East European countries encountered in the use of output indicators is one which confronts any authority using instructions for production. For, in practice, it is impossible to specify production, except of the simplest raw materials, in an unambiguous manner.

Pricing

Allocation, whether by central direction or the market, requires prices. Traditionally, this has been challenged by the socialists who have conceived of prices not as indicators of relative scarcity capable of formulation even in the absence of money but, following Marx, as associated with exchange leading to a change of ownership, and as expressed in absolute sums of currency. In other words, the general notion has been confused with the particular form taken by prices in market economies where resources are privately owned and currency circulates. The implication of the traditional socialist conception is that where 'planning', that is central direct allocation, is substituted for the market and state ownership replaces private ownership, prices and money will be eliminated.

In fact, however, except for a brief interlude during the period of the 'war economy', prices and money have persisted in the socialist economies. Without going into the debate over the justification of this state of affairs from the point of view of Marxist orthodoxy, ^{14/} we must therefore complete the discussion of central allocation in the East European countries before the reform with a brief examination of their pricing system.

The pricing system was governed by three principles. The first was adherence to the labour theory of value in its Marxist interpretation, which meant that the value of a product was considered equal to the average value of the labour directly or indirectly embodied in it. ^{15/} The second was subsidization, of basic industries to promote industrialization in particular and, production being paramount, of uneconomic production in general. The third was the maintenance of constant prices, for periods of five to seven years as a rule.

The choice of average value meant that price could not equal cost unless costs were constant. The equation of value with the value of the labour input meant that prices systematically underestimated costs because the other original factors of production, land and capital, were treated as valueless, that is as free factors. Widespread subsidization meant that even labour was disregarded as a standard of value and that prices became purely arbitrary. Finally, price fixing meant that even where prices reflected labour value in the base year, they rarely did so at the end of the price-fixing period.

Thus, even if the Marxist labour theory of value had been strictly adhered to, it would have led not only to a misallocation of labour but also of resources in general. ^{16/} In particular, the attribution of a zero-price to capital meant that prices provided no guidance as to efficient investment. ^{17/} The criterion which the labour value constituted was repeatedly modified to promote indu-

strialization, and production in general, or to maintain fixed prices, however. The outcome was a price jumble which, under no conceivable conditions, could have been taken to reflect relative scarcities on the domestic market. This meant, as we shall stress in the next part that, even if all other sources of waste had been eliminated, trade could not have been efficient.

* * * *

The East European system of central direct allocation which, as we noted, embraced only production and trade, was thus imperfect. This is not to say that it achieved nothing. The rapid industrialization of essentially rural areas was its outstanding attainment. It is simply to stress that as a system for guiding resources into their most economic uses, once structural change had been forced through, it was defective. This was due in part to a lack of the information required to operate a system of central allocation. It was due, second, to a characteristic inherent in a system of allocation by instruction, namely the need to work to deadlines. It was due, third, to the inability in practice to issue sufficiently specific instructions to avoid the output of useless products.

To imperfect central allocation, the East European authorities added inefficient pricing. Thus, even if the drafting of a consistent plan, a way around deadlines, and the issue of perfect directives could have been achieved, an optimal allocation of resources, that is one maximizing production in conformity with community preferences, would have been impossible.

It was at once to eliminate the waste associated with central allocation and the pricing system, and to encourage technical innovation, that the reforms of the nineteen-sixties were undertaken. The reason for their introduction at the particular time chosen for their initiation is discussed in the last part of the chapter. In the next part, we consider in some detail how foreign trade was fitted into the system just described.

II.

FOREIGN TRADEThe Foreign Trade Monopoly

As we noted in Part I, foreign trade was part of the command sector. In contrast to the situation with respect to production, however, the command organization, known as the foreign trade monopoly, was virtually the same throughout Eastern Europe.

It consisted of two institutional hierarchies. For Czechoslovakia during the period 1958-1967, they are shown in Chart 2. The first was the trade monopoly which was composed of the State Planning Commission, the Ministry of Foreign Trade, the foreign trade corporations, and various ancillary organizations such as the chamber of commerce, foreign trade research units, and insurance institutes. The second was the foreign exchange or valuta monopoly which, besides the Planning Commission, included the Ministry of Finance, the State Bank, the Foreign Trade Bank and the central customs administration. Actual transactions were carried out by the foreign trade corporations. Each of these, which engaged only in trade, had the exclusive right to import, export, or both, a given product or group of products.^{18/} With trade in the hands of central agencies, domestic producers and consumers were effectively cut off from all direct contact with their foreign counterparts.

The Planning and Control of Trade

The foreign trade plan which the monopoly drafted and executed was, as we have seen, elaborated and approved as a part of the national plan. The order of planning with respect to foreign trade is of interest as it is relevant to the discussion of the policy of which the monopoly was the instrument, and which we pursue below. In foreign trade planning import requirements arising out of the production plans were considered first, and only then were export availabilities examined. This came to be known as the 'import first' approach.

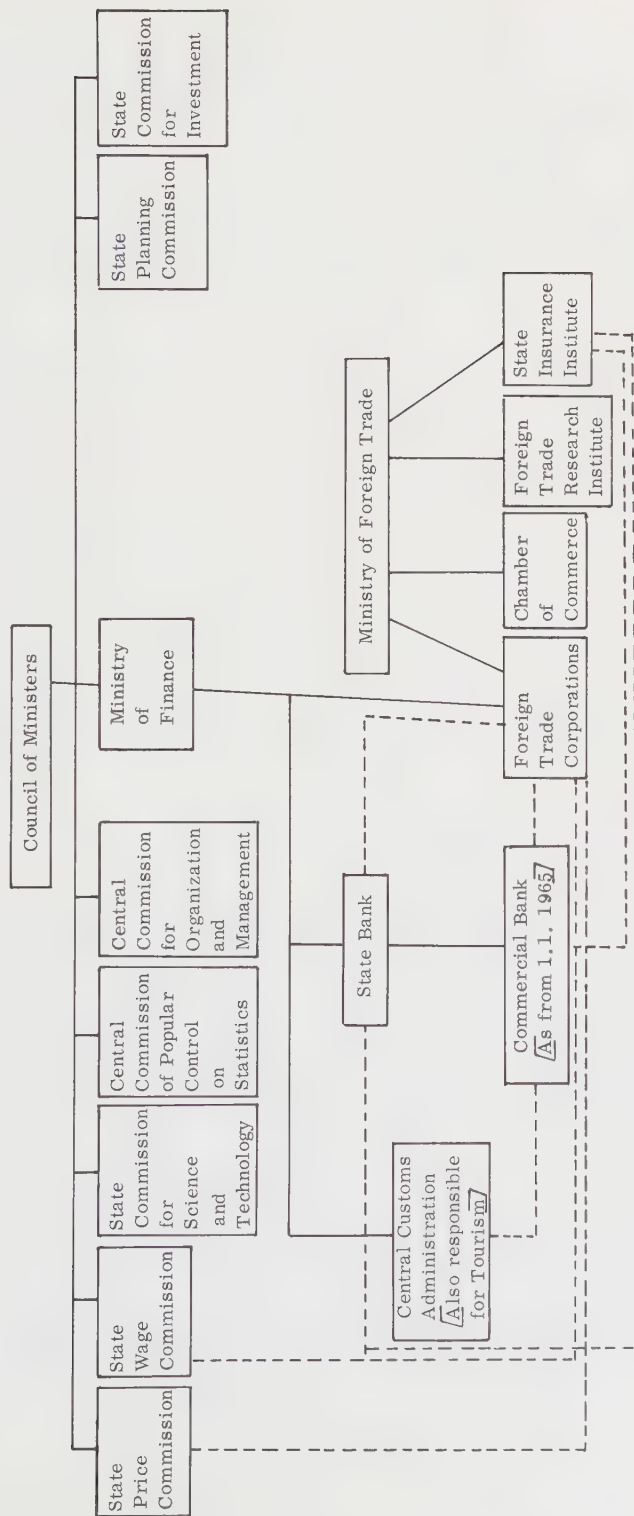
The plan which finally emerged was in fact a series of plans. These were a plan in foreign prices for balance of payments control, in domestic prices to dovetail foreign trade into the national value balances, in volume terms for key products and, in the case of the annual plans, the 'goods/country plan' and the 'country/goods plan'. To these were added credit, cash on hand, and transport plans.

Once the annual plan had been approved as a part of the overall plan by the Council of Ministers, instructions were issued to the enterprises and to the foreign trade corporations. The corporations, having begun to negotiate import and export contracts with foreign partners on receipt of the initial control figures, as noted in Part I, proceeded to conclude them.

The instructions, or targets, which the corporations received were nor-

Chart. I. 2.

STRUCTURE OF PLANNING AND ADMINISTRATION OF FOREIGN TRADE IN CZECHOSLOVAKIA 1958 - 1967



Lines of Subordination

Main Lines of Influence or Co-operation

Sources : United Nations Economic Commission for Europe : Economic Survey of Europe in 1962 - Part 2, Economic Planning in Europe, Geneva, United Nations, 1965, Chapter VI, p. 13.
Facts on Czechoslovak Foreign Trade, Prague, Rapid, 1966, pp. 214-275.
Interviews.

mally in volume terms and in value terms in domestic currency. They comprised commodity breakdowns of exports and imports which were generally more precise for imports than for exports, for imports of equipment than for imports of consumer goods, and for trade with the centrally planned economies than for trade with developed market economies. In the case of the latter, targets tended to relate to the values of categories of products rather than to specific commodities. The direction of trade was again specified in particular detail for trade with the centrally planned economies, whose transactions were governed by bilateral clearing agreements. Targets for trade with the developed market economies, especially after 1958 and the return to convertibility in West Europe, tended by contrast to relate to the convertible currency area as a whole.

The material incentives, that is premia, introduced to induce management to fulfil the plan depended, in particular, upon the achievement of total purchase or sales targets, and the compulsory purchase or delivery of certain amounts of goods to specific countries or areas. But other indicators, such as the earning or saving of certain currencies, were also used.

Especially as from the end of the nineteen-fifties, however, the amount of the premia, as opposed to their allocation, depended upon the 'profit' ^{19/} of the corporations. ^{20/} As domestic prices were given, this meant that corporations were encouraged to achieve the highest possible foreign exchange price for their exports and the lowest possible foreign exchange price for their imports whenever their targets were general enough to allow this. As a result 'directional rates', that is accounting exchange rates differentiated by area or country, had some influence on the volume and direction of trade. But this was virtually the only intrusion of trade control through the price mechanism. For although the USSR, Czechoslovakia, Hungary, and Poland had double-column tariffs, they were applied almost exclusively to the transactions of private individuals. ^{21/} Trade control, in sum, was ensured essentially by target and, just as domestic producers and consumers were cut off from any direct contact with foreign firms, so they had little incentive to respond to foreign prices.

The inclusion of foreign trade into the command structure meant, first, that, like domestic economic activity, it was subject to the imperfections of that system. Inconsistent planning meant disorganization and shortages, so that export contracts could not always be fulfilled and import plans had to be altered to make up for unforeseen shortfalls in domestic production. 'Storming' meant that traders did not necessarily buy or sell at the most profitable moment. The imprecision of directives meant that the quality of exports was a constant cause of complaint and that imported goods were often inappropriate.

But, second, the isolation of domestic producers and consumers from foreign markets, which the organization and target control of the foreign trade monopoly added, over and above this, meant that domestic producers could content themselves with carrying out central instructions without regard for conditions on the world market. Producers of exports could ignore the requirements of their clients unless specifically instructed to do so. Similarly, whatever the behaviour of their foreign competitors, they had no incentive to innovate unless they received directives to this effect. On the import side, lack of information as to what was available reduced the initiative of producers in favour both of cost reduction in a given state of technology, ^{22/} and of technolo-

gical change.

Domestic and Foreign Prices

The elimination of the automatic influence of world markets was completed by the insulation of domestic from foreign prices which was achieved by price equalization, that is by equalizing foreign prices, whatever they might be, to the administratively set domestic prices. The system, which was applied given the overvaluation of the East European currencies, was operated as follows.

As currencies were overvalued, the setting of targets at free trade levels would have resulted in a balance of payments' deficit. To maintain balance of payments' equilibrium, therefore, targets were used to restrict imports below, and to expand exports beyond, the free trade level. This raised domestic above world prices when both sets of prices were compared at the official exchange rate.

As a result of the divergence between domestic and foreign prices, the importing corporations, which bought goods and services at world prices, converted them at the official, or a directional, exchange rate, and then sold them at higher domestic prices, generally made a profit. The exporting corporations, on the other hand, which bought goods and services at domestic prices, sold them on the world market, and then converted the proceeds at the official, or a directional, exchange rate, generally made a loss. Importers' profits, however, were turned into government revenue by the use of equalizing taxes ^{23/} equal to the rate of divergence between the foreign and the administratively set domestic prices ; and exporters' losses were similarly offset out of government funds by means of equalizing subsidies equal to the rate of divergence between the administratively set domestic and world prices. The process of price equalization thus sealed off the domestic economy from the direct influence of world prices.

Note that the rates of equalizing tax and subsidy differed from product to product and were not necessarily equal to the rate of overvaluation. To put it differently, they were not necessarily equal to the single rate of devaluation which would have been consistent with balance of payments' equilibrium had the restrictive and expansionary targets required by overvaluation been abolished.

Note, too, that if world prices had no direct influence on domestic prices, the relation between domestic and foreign prices could have been maintained administratively. But price policy, as we have seen, was to keep wholesale prices constant for five years or more. Thus the price systems of the Eastern European countries tended to develop independently, and divergences between domestic and foreign prices to persist.

Determining Comparative Advantage

One consequence of the resulting rift between national and international prices, to which we shall return when considering the objectives of commercial policy in the East European countries in the pre-reform period, was that the specialization effect of trade was, at best, discontinuous and, at worst, absent. ^{24/} The second consequence, which was of more immediate importance, was that it made the determination of the profitable pattern of trade virtually impossible.

This was not due to overvaluation, as is often suggested. For this resulted in macroeconomic disequilibrium not allocative distortion : it meant that all exports were unprofitable and all imports profitable, but not that the relative values of traded goods were incorrect. The difficulty of calculating comparative advantage was due to the existence of traded inputs but was aggravated by overvaluation. Traded inputs made it necessary, in order to obtain the correct ranking of activities according to international profitability, to compare not the domestic to the foreign value of products, but the domestic to the international value added by domestic resources. Overvaluation, owing to the differing rates of trade tax and subsidy it introduced, then increased the difficulty of computation. This point may be appreciated by considering the formula for the rate of divergence between the domestic and the international value added by domestic resources, or effective rate of protection, in the case of a process employing not only traded inputs, but also domestic inputs with a traded content :

$$g_j = \frac{t_j - (a_{ij}t_i + w_{hj}t_w)}{1 - (a_{ij} + w_{hj})} \quad \underline{25/}$$

where g_j - rate of divergence between the domestic and the international value added by process j, or effective protective rate on process j

t_j - trade tax on output j

a_{ij} - share of traded input i in the cost of j at free trade prices

t_i - trade tax on input i

w - traded input into non-traded input h

t_w - trade tax on traded input w

a_{hj} - share of non-traded input h into output j

The result of the virtual impossibility of assessing comparative advantage were the many recorded cases of import-competing goods being produced, the foreign exchange value of whose imported inputs were higher than the foreign exchange value of the goods themselves, and of exports being produced whose foreign exchange value was lower than the foreign exchange value of their imported inputs. ^{26/} An instance of the former was the much-cited production of steel in Hungary.

In an attempt to overcome the difficulty of determining the economic structure of trade, the East European countries elaborated measures variously referred to as indicators, indices, criteria or coefficients of foreign trade efficiency. They are discussed in Appendix II. These ranged from the direct comparison of domestic and foreign product prices, to more sophisticated measures of the relative international profitability of processes. The latter were approximations to the domestic resource cost (DRC) measure used outside Eastern Europe to calculate comparative advantage when the control of trade is

quantitative. But they were expressed in terms of the labour theory of value. Even assuming this, they were generally faulty, however. And as measures of the relative international profitability of different national activities they were faulty without exception for, while they sought to correct the distortions due to the presence of traded inputs given the trade taxes and subsidies required by overvaluation, they made no attempt to correct for the deficiencies of the domestic pricing system described in Part I.

An attempt to correct both for defective domestic pricing and for the complications introduced by traded inputs given overvaluation was undertaken early in the nineteen-sixties when linear programming was applied to the construction of short and medium-term foreign trade optimization models. These are also briefly discussed in Appendix II. While, in contrast to the efficiency indicators, they were sound in concept, they were found to contain too many variables to be computable even when, as in Poland, they were decomposed into partial, or sectoral, models. The difficulty was overcome by using them to establish optimal allocation for broad aggregates while indicators continued to be calculated in an attempt to rank individual activities according to their relative international profitability. The indicators benefitted from the use of directional exchange rates calculated for the computation of the sectoral models and of the shadow product prices, that is prices reflecting relative scarcities, which could be derived from these.^{27/} Nevertheless, the indicators remained faulty and the technique for determining domestic resource cost continued to escape the planners. Furthermore, the corrections to domestic prices which the computation of the optimization models indicated were rarely acted upon because of the far-reaching changes in prices and premia which they demanded. Thus both the divorce of domestic from foreign prices and domestic price distortions continued to make it virtually impossible to conduct trade efficiently.

The Cost of Protection

The causes of misallocation under the system of foreign trade control before the reforms were thus numerous. We have identified the waste associated with the command system, and the waste arising from the difficulty of determining the profitability of trade given the insulation of domestic from foreign prices and defective domestic pricing. These losses are difficult to quantify, however, although the frequency with which they are referred to and the effort put into elaborating foreign trade efficiency measures suggests that they were large. On the other hand, there is third cost to the system to which a very rough figure may be attached. This is the cost of protection, that is the cost to the community of the misallocation of resources associated with the divergence between domestic and foreign prices introduced by trade control. It is examined in more detail in Appendix I.

The cost of protection is a function of the rates of divergence between domestic and foreign prices due to the control of trade, of the size of the protected sector, and of the price elasticities of demand and supply of traded goods. Although evidence is scarce, available data suggests that the rates of divergence between domestic and foreign prices due to trade control, that is the rates of protection, were high in Eastern Europe before the reforms. Thus, in

Czechoslovakia, it was estimated that the ratios of domestic to foreign prices expressed for a unit of foreign exchange ranged from 100 to 700 per cent of the official exchange rate. For the USSR, Holzman has calculated that for exports in 1956, they varied between 1.07 and 24.54 roubles per unit of foreign exchange for consumers' goods and between 0.53 and 10.98 roubles per unit of foreign exchange for nonconsumers' goods, and that the range for imports was similar.^{29/} The figures admittedly relate to the rates of protection on products, that is to nominal rates, and tell us nothing about the rates of protection on processes, that is about effective rates. But there is evidence that, as in the West, the rates on raw materials and semi-manufactures were lower than on final goods,^{30/} so that effective rates would exceed nominal rates. Given the organization of the monopoly, it also seems safe to conclude that most importables and exportables were protected so that, for the smaller East European countries, whose share of trade in national income was about, or upward of, 20 per cent the protected sector was no doubt large. Moreover, there seems no reason to believe that demand and supply elasticities were unduly small. Hence, even allowing for the positive terms of trade effect of protection,^{31/} and for the devaluation which, in the absence of a reduction in the level of domestic prices, would have been necessary for balance of payments equilibrium given the removal of barriers to trade, it seems probable that the cost of protection in Eastern Europe was high, particularly in the smaller countries, and that it was nearer to the size of the cost of protection in developing^{32/} than in developed countries. Furthermore, it would seem that it may have been considerable enough to equal, and therefore to offset, the annual increase in the protected countries' real income. If this were so, then taken together with the other sources of inefficiency identified within the trading system, the cost of trade control in the smaller Eastern European countries in particular may, at times, have more than offset their annual rate of growth.

The Objective of Commercial Policy

Note has been taken of the fact that the organization of the foreign trade monopoly cut domestic producers and consumers off from any direct contact with foreign markets ; that the target control of trade and production prompted producers to ignore the conditions of the world market unless specifically instructed to observe them ; and that domestic prices were insulated from the direct influence of world prices by equalizing taxes and subsidies. This prompts the question as to whether a system which appears to have been designed to ensure the isolation of the economy was operated so as to achieve autarky. The high level of protection might be read to lend support to this thesis. Moreover, it has often been asserted, not least by East Europeans in criticism of their own system.^{33/}

First, it must be stressed that the isolation of the economy from the direct impact of foreign markets does not exclude the transmission of foreign influence by the economic authorities to the units in their charge. In other words, it does not preclude the center's responding to world conditions and issuing instructions which transmit that response to the periphery. At the limit, the foreign trade monopoly as described above is thus consistent with a situation of 'free' trade in which the central authorities adjust targets to maintain the equality of domestic and foreign prices. Hence, it is consistent with a policy which is the opposite of autarky. Second, the mere existence of high levels of protection indicates high protection but not autarky.

Third, if we define an autarkic policy as the measures taken to achieve economic self-sufficiency either now or in the future, and we examine the statistical material which might be taken to indicate such a policy, we find that there is no evidence of autarky. As we show in Appendix III, the level of trade has risen fast in the whole of East Europe throughout the post-war period. Moreover, it has risen fast not only in absolute terms but in relation to production : trade expansion has outstripped the growth of national income in all the Eastern European countries indicating an increasing reliance on trade on their part. If we modify our stand and interpret "autarky" to mean the autarky of the socialist group of countries with respect to the capitalist nations, there was a contraction of trade with the West in only a few Eastern European countries during a few years in the early nineteen-fifties : the evidence is too fragmentary to be conclusive. On the other hand, there is evidence that the share of trade in national income in the East European countries is lower than 'normal'. ^{34/} But this is as much an indication of high protection as it is of the pursuit of autarky.

To conclude that autarky was the objective in Eastern Europe, we must therefore find policy measures and pronouncements which support the thesis. Policy pronouncements referring to the objective of autarky as such have not been found. References to autarky do occur often to describe or criticize policies similar to that of the Soviet Union during the nineteen-thirties which, it is argued, can more justifiably be described as 'protection for industrialization'. ^{35/} Again, references to the need to reduce imports at all costs are often found, but this is not synonymous with autarky. On the other hand Lenin's programme of independence through economic development to catch up and overtake the developed economies with, as a necessary condition for this, industrialization and technical advance, is a recurring theme. Independence, however, is modified to mean independence of the capitalist West not of the socialist nations.

If we turn to policy measures, 1949-1953 is the period of the Stalinist transformation of rural into industrial communities equipped with heavy industry. The emphasis is on production to the neglect of trade. This is reflected in the 'import-first' sequence of foreign trade planning which takes no account of the opportunity for reducing costs through trade and thus eliminates the specialization effect of trade, as we have already noted. And it is expressed in the textbooks which present trade as a supplement and not an alternative to domestic production. But while this amounts to a policy of high protection, it does not spell autarky. And, given the cost of the neglect of trade in the smaller East European countries, the emphasis shifts from domestic production to the exploitation of the international division of labour as early as 1954.

Thus it is difficult to read autarky into either the statistical record or the declarations made and measures taken in the pre-reform period. With hindsight, with the East European economies now opening up to trade, and in the light of the long-term Communist objective of economic development it seems more accurate to characterize the policy pursued during the nineteen-fifties as, by analogy with the Soviet experience during the nineteen-thirties, also 'protection for industrialization'. Moreover, it would seem profitable to cease considering the East European economies as a class apart and to begin to consider them as developing countries with particular institutions. Their commercial policy, instead of being examined in isolation, could then be compared to those of the economies undergoing industrialization.

III.

CONCLUSIONS

In the foregoing sections we have attempted to single out and present the chief characteristics, as well as the chief defects, of the East European economic system and trade control before the reforms. Prominence has been given to the inadequacies of the system in order to bring out the grounds for reform.

The general system has been shown to be one of central direct allocation, or command, for production and trade. It has been shown to be wasteful because of inconsistent planning, working to deadlines or 'storming', and the imprecision of directives. It has been stressed that, even if these sources of waste had been eliminated, allocation would not have been efficient. Defective pricing based on the labour theory of value, modified by subsidies to encourage production and by price-fixing, would have precluded this.

Within the command structure, the foreign trade monopoly and its control of trade have been examined. It has been shown that the monopoly operated so as to seal off the economy from the direct influence of foreign markets. It achieved this by concentrating trade in the hands of a few state-trading agencies, by requiring them to work to targets rather than in response to foreign prices, and by insulating domestic from foreign prices by means of equalizing taxes and subsidies.

The resulting inefficiencies were essentially three. Producers knew nothing of foreign markets and never felt the goad of foreign competition : they therefore had no incentive to reduce costs or innovate in line with world standards unless instructed to. The multitude of trade taxes and subsidies meant that the determination of the profitability of trade was virtually impossible. Protection seems to have been very high. While other forms of waste are not measurable, a rough estimate of the cost of protection suggests that it may have been as high as in developing countries and that, in certain cases, it may have been great enough to offset the annual increase in the protected country's real income. It has been argued that the isolationist character of the monopoly and the high level of protection do not, as has often been advanced, reflect the pursuit of an autarkic policy.

From the preceding summary, it is evident that the inefficiency of the economic system was considerable, and that there was ample justification for reform. What is not clear, however, is what determined the timing of the reform. Since the sources of waste just cited existed at the outset, why did reform have to await the mid-sixties ? Without presuming to answer this question, we single out three contributory factors.

One was the manifest and increasing prosperity of the Western European nations. To it may be added the foundation and success of the European Economic Community which constituted an economic but also a political threat in the eyes of the East European countries. To forestall popular discontent, to counter the Community, the Eastern European countries needed to be prosperous and, which meant eliminating waste, to be as economically strong as possible.

A second factor was that most of the Eastern European countries at the beginning of the nineteen-sixties were experiencing diminishing returns on investment. ^{36/} This was one indication that the reserves of manpower and resources on which most of the East European countries had been drawing to sustain their expansion were drying up. As the full employment of resources approached, so the concern with their efficient allocation, and thus with the reform of the economic system increased.

The third factor may have been Lenin's legacy of a long-term policy of economic development for socialist countries. Development, according to this view, requires industrialization. In Eastern Europe basic industrialization was completed in all the unindustrialized countries towards the end of the nineteen-fifties. Given this transformation, further development required an improvement in the allocation of resources and technical innovation. Since the existing system ensured neither it had to be modified.

Thus, given the inefficiency of the economic system, there seemed to exist a number of factors, at the beginning of the nineteen-sixties, which had not existed previously and which made the authorities of the East European countries particularly concerned with it. The outcome of that concern were the economic reforms which are analysed in the following two chapters.

NOTES

- 1/ The terms 'central allocation' and 'regulated market' are discussed in the next chapter in connection with economic reform.
- 2/ For a review of the control agencies in the USSR, see NOVE, Alec : The Soviet Economy. Revised Edition. London, George Allen and Unwin, 1965 ; pp. 97-102.
- 3/ Ibid., pp. 265-269 for a lucid discussion of the East European concept of national income.
- 4/ That is income originating in foreign trade activity, the production of exports being already included under industry or agriculture.
- 5/ According to the Economic Survey of Europe in 1962. Part 2 : Economic Planning in Europe, Geneva, United Nations, 1965, chapter IV, p. 24, in the early nineteen-sixties "the number of material input balances elaborated by the central planning agencies in eastern Europe ranged from 100 in Albania and 250-300 in Hungary to 500 in Bulgaria, 670 in eastern Germany, 760 in the Soviet Union and 900 in Czechoslovakia. The central agencies prepare(d) still more - with as many as 1500 balances in Poland including those of the State Planning Commission) 2,600 in eastern Germany and 14,000 in the Soviet Union."
- 6/ NOVE, Alec : The Soviet Economy, pp. 215/126, citing Berri L. and Effimov, A., Planovoe khozyaistvo, no. 5, 1960, pp. 34-35.
- 7/ LEONTIEF, Wassily W. : "The Decline and Rise of Soviet Economic Science". Foreign Affairs, January 1960 ; pp. 261-272. Reprinted in The Soviet Economy. Harry G. Shaffer (Ed.), London, Methuen, 1964 , pp. 367-378.
- 8/ In the West, Leontief's first book on input-output analysis was published in the United States in 1941, and serious work on the method began shortly after the Second World War.
- 9/ For a comprehensive analysis of planning instruments see Economic Planning in Europe, chapter IV, pp. 23-32.
- 10/ Labour, within the constraints imposed by the directives relating to overall employment and wages was generally bid for by the enterprise within a regulated market. Given the difficulty of controlling the execution of the employment and wages plans, moreover, the enterprise had even more freedom in this area than was apparent. The direction of labour was restricted essentially to University graduates and certain other school leavers and trainees.
- 11/ For examples of the kind of instructions used see chapter II.
- 12/ Cited in NOVE, Alec : The Soviet Economy, p. 163.
- 13/ For these and many other examples, *ibid.*, pp. 161-173.
- 14/ On this see NOVE, Alec : The Soviet Economy, pp. 280-287.

- 15/ MARX, Karl : Capital. Moscow, Foreign Language Publications, 1961. Vol. I, p. 39.
- 16/ These two propositions would be untrue only if the marginal cost of labour were constant and labour were the only factor of production.
- 17/ The calculation of the efficiency of investment was attempted, however. See Economic Planning in Europe, chapter IV, pp. 32-43.
- 18/ As from 1953, however, a number of countries gave limited trading rights to certain producers and consumer co-operatives. See PRYOR, Frederic L. : The Communist Foreign Trade System. London, George Allen and Unwin, 1963. pp. 78-79.
- 19/ Which, in the case of the exporting corporations was, as we shall see, a planned loss.
- 20/ United Nations Economic Commission for Europe : Economic Survey of Europe in 1962 : Part 2 : Economic Planning in Europe. Geneva, United Nations, 1965. Chapter VI, p. 27.
- 21/ See, for instance, WILES, Peter J.D. : Communist International Economics. Oxford, Basil Blackwell, 1968. pp. 219-222.

The fiction that they were effective instruments of retaliation against Western, and particularly EEC, discrimination has been abandoned.
- 22/ International Trade and Central Planning, Alan A. Brown and Egon Neuberger (Eds.), Berkeley and Los Angeles, University of California Press, 1958.
- 23/ For a discussion of the equalizing tax or tariff see CORDEN, W.M. : The Theory of Protection. Oxford, Clarendon Press, 1971. pp. 8-9
In a system in which trade taxes or tariffs are the instrument of trade control, the equalizing tariff will determine the level of trade compatible with the quantity of domestic production associated with the set domestic price. In the Eastern European system, however, targets determined the level of trade and the equalizing tax was simply a device for transferring the importing corporation's profits to the Ministry of Finance.
- 24/ JOHNSON, H.G. : "Comparative Costs and Commercial Policy." Pakistan Economic Journal, June 1958. Reprinted in JOHNSON, H.G. : Money, Trade and Economic Growth. London, George Allen and Unwin, 1962. p. 34.
- 25/ CORDEN, W.M. : The Theory of Protection. Oxford, Clarendon Press, p. 159.
- 26/ For examples of the former see BALASSA, B. : The Hungarian Experience in Economic Planning. New Haven, Yale University Press, 1960, pp. 180-183 ; PRYOR, F.L. : The Communist Foreign Trade System. London, George Allen and Unwin, 1963, pp. 28-29. For a reference to examples of the latter see BALASSA, B. : "The Economic Reform in Hungary." Economica, February, 1970, p. 16.

- 27/ See Appendix II, pp. 49 and 50.
- 28/ Ibid., for a discussion of techniques for calculating comparative advantage.
- 29/ Noviny zahraničného obchodu, No. 19, 1968
For further evidence of the dispersion of exchange rates and of the height of taxes and subsidies see HOLZMAN, Franklyn D. : "The Ruble Exchange Rate and Soviet Pricing Policies 1929-1961." American Economic Review, September 1968.
- 30/ Ibid., p. 808.
- 31/ Appendix I, p. 40.
- 32/ Particularly if we adjust for the downward bias to the price level introduced by adherence to the labour theory of value.
- 33/ LISKA, Tibor and MARIAS, Antal : "A gazdaságosság és a nemzetközi munkamegosztás (Optimum Returns and International Division of Labour), Közgazdasági Szemle, No. 1, 1954, pp. 75-94, extracts of which are reproduced in Economic Survey of Europe in 1954, pp. 131-135.
- 34/ "Trade Dependence in European Countries", Economic Bulletin for Europe, Vol. 21, no. 1, pp. 43-65.
- 35/ Appendix III, p. 60-62.
- 36/ Economic Bulletin for Europe, Vol. 18, No. 1, p. 51.

IV.

Chapter I

APPENDIX ITHE COST OF PROTECTION

1. Since Meade's seminal contribution to the theory of commercial policy, and his decision in favour of the measurement of welfare changes, the cost of protection has again ^{1/} been the subject of theoretical analysis ^{2/} and empirical evaluation. ^{3/} The present paper considers it in the Eastern European countries before the reforms. But, given the scarcity of information, it goes no further than to attempt a very rough comparison of the order of magnitude of the cost of protection in Eastern Europe and in the developed and developing countries. The first part of the paper is devoted to the theoretical analysis of the cost of protection, the second to its measurement in some developed and developing countries, the third to its evaluation in Eastern Europe, and the fourth to conclusions.

I. THEORY

2. The cost of protection is the loss to the community which arises from the divergence between domestic and foreign prices that protective devices determine. This loss consists of a production loss, on the one hand, as resources are reallocated into import-competing or export production, whose marginal cost lies above world price, and of a consumption loss, on the other hand, as consumers consume at higher than world prices. The cost of protection may be measured within a general or a partial equilibrium framework. The general equilibrium analysis is shown below in Diagram 1.

Given free trade and perfectly competitive conditions ^{4/}, international prices are domestic prices and domestic production and consumption thus take place at international prices. In Diagram 1, international prices are measured by the slope of *ff*, and production under free trade is at *P*, where the marginal rate of transformation is equal to the ratio of international prices.

Assuming that a country is small, it can buy and sell any amount of goods on international markets at the terms of trade. In Diagram 1, country A, given its production, can thus exchange *X* for *Y* until at *C* on indifference curve *I*₃ the marginal rate of substitution is equal to the ratio of international prices. *I*₃, in other words, represents the highest level of real income which is consistent at once with A's production possibilities, its preferences, and with international prices. Measured in terms of *X*, the exportable good, this level of real income is equal to *OX*₃.

Given protection which restricts imports below, or expands exports beyond, their free trade level, the domestic price of the protected good rises above the free trade price, and production and consumption take place at domestic prices which differ from international prices. In Diagram 1, the domestic price ratio given the protection of *Y* is measured by the slope of *dd*, and the ratio of the slope of *dd* to the slope of *ff* measures the rate of protection of product *Y*. Production, given protection, thus occurs at *P*₁.

Given *P*₁, country A which is a small country can exchange *X* for *Y* at the international price ratio, *ff*, until at *C*₁ on indifference curve *I*₁ the marginal rate of substitution is equal to the ratio of domestic prices. *I*₁, in other words, represents the highest level of real income compatible with A's production possibilities, its preferences, its protection of *Y* and international prices. As a result of protection country A thus suffers a loss in real income which is represented by the drop from *I*₃ to *I*₁.

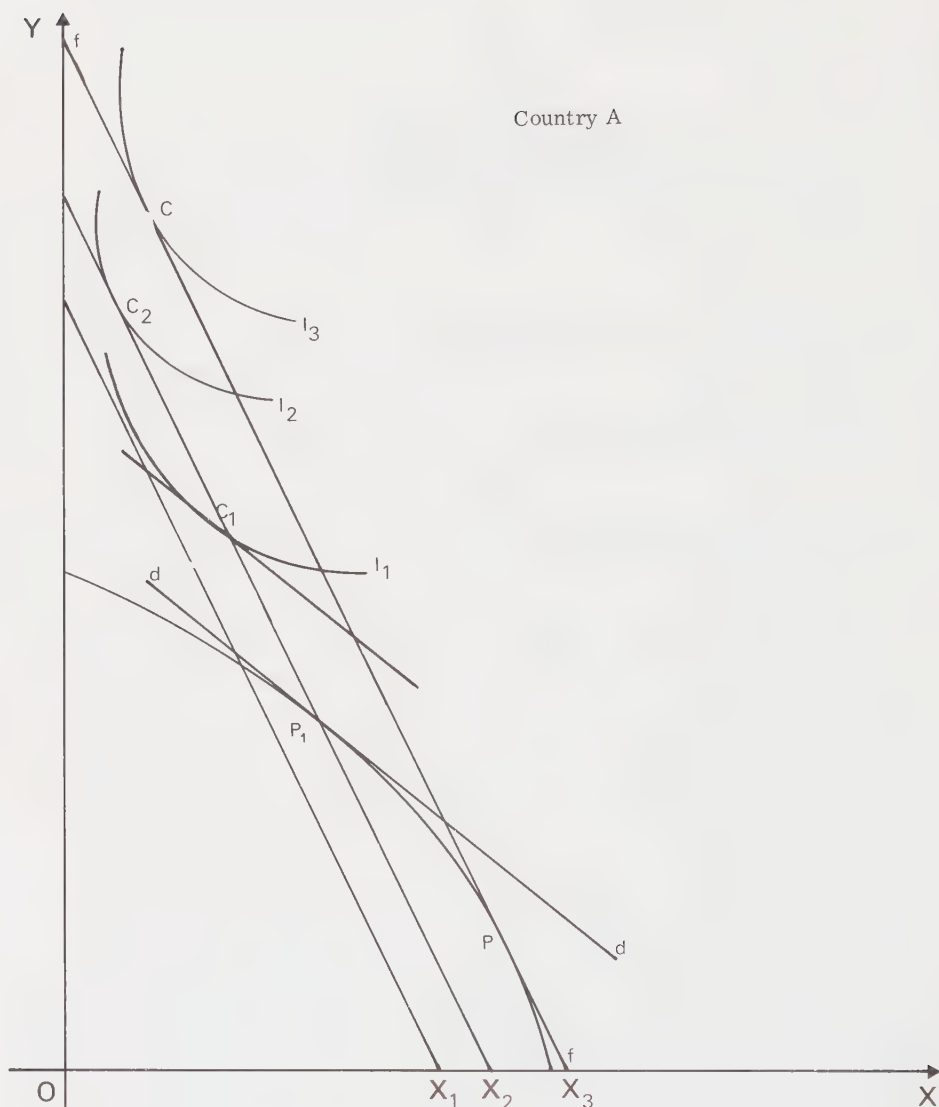


Diagram 1

This loss may be divided into two parts. The first is the loss due to the re-allocation of resources away from the production of exportables to the production of importables, and thus away from P and to P_1 . This may be measured by assuming that the only change which takes place as from the free trade situation is a rise in the price of Y to producers. Protection, in other words, is assumed to affect only the prices paid to producers and not those paid to consumers who continue to consume at international prices. Production then takes place as before at P_1 .

Given P_1 , country A exchanges X for Y at the international price ratio ff but this time it does so until at C_2 on indifference curve I_2 the marginal rate of substitution is equal to the ratio of international prices. I_2 thus represents the highest level of real income compatible with country A's production possibilities, its preferences, its protection of Y by means which do not raise prices to consumers above world prices, and international prices. In terms of X, this level of real income is equal to OX_2 . The loss due to the reallocation of resources, or production cost of protection, is thus equal to the drop in real income measured by the shift from indifference curve I_3 to indifference curve I_2 or, in terms of X, X_2X_3 .

The second part of the cost of protection is the loss inflicted on consumers by raising the price of Y to them above its international price. This shifts the community down from indifference curve I_2 to indifference curve I_1 . The level of real income I_1 measured in terms of X at international prices is OX_1 . ^{5/} Thus the consumption cost of protection is equal to the drop in real income measured by the shift from indifference curve I_2 to indifference curve I_1 or, in terms of X, by X_1X_2 . Hence the total cost of protection in terms of X is X_1X_3 .

X_1X_2 is a variant on the equivalent variation, that is the income 'tax' which would reduce the community's real income as much as the rise in the price of Y to consumers, indicated by the shift from ff to dd, given production P_1 . Alternatively, it is a variant on the compensatory variation, that is the income tax which would have to accompany the fall in the price of Y to consumers, shown by the shift from dd to ff, given production P_1 , in order to maintain the real income of the community at the level shown by indifference curve I_1 . In this case, X_1X_2 is the amount of goods and services which can be extracted from A when consumption takes place at the more favourable international price ratio and still leave it as well off as when consumption was taking place at less favourable protected prices. The use of both the equivalent and the compensatory variations for a community rather than an individual is subject to the limitations surrounding the use of community indifference curves, however. Both concepts, moreover, give rise to complications when changes in commercial policy lead to changes in the terms of trade. ^{6/}

3. The partial equilibrium analysis of the cost of protection is shown below. The approach is Johnson's. ^{7/} He begins by converting the two-sector general equilibrium model into a partial equilibrium model where the price of imports is expressed in terms of exports. D is the demand curve for importables assuming that the marginal utility of money (in this case exportables) is constant. The income effects of changes in the price of importables are thereby ignored and the demand curve shows the relationship between quantity demanded and price given the level of real income achieved under tariff t. p is the world price, p' the domestic price which is assumed to be equal to 1. τ , which is the proportion by which the domestic price will fall when the country moves to free trade, is equal to $\frac{t}{t+1}$ where t is the tariff rate expressed as a fraction.

If protection, represented by tariff t, is removed, the domestic price drops from p' to the international price p. As a result, there is an increase in con-

sumers' surplus measured by $pp'LM$. This is offset, first, by a reduction in producers' total revenue equal to $pp'HI$. $pp'HI$ consists of two parts. There is $pp'H$, the reduction in producers' surplus and there is GHI which, as far as the producers are concerned, is offset by a reduction in the cost of production as production contracts by P_1P to make way for imports. For the country as a whole, however, GHI measures the cost of producing P_1P at home under protection instead of buying it on the international market. It is thus the community's net production gain from free trade, or the production cost of protection.

The increase in consumers' surplus is offset, second, by the government's loss of tariff revenue, $IHLK$. This leaves LKM , which thus measures the net consumers' gain from free trade, that is the consumption cost of protection. The total cost of protection is then $GHI + LKM$ or, making use of the fact that $p' = 1$,

$$\begin{aligned} 1/2 \tau (dP + dC) &= 1/2 \tau \left(\frac{dP}{dp'} \tau - \frac{dC}{dp'} \tau \right) \\ &= 1/2 \tau^2 \frac{d}{dp'} (P - C) \\ &= 1/2 \tau^2 \eta_V \end{aligned}$$

where V is the initial domestic market value of imports, $p' (C - P)$, and η is the arc-elasticity of the constant-utility demand for imports. If the cost of protection is to be expressed not as an absolute sum but as a proportion of national expenditure, that is national income at market prices, V may be re-defined as the ratio of imports at market prices to domestic expenditure. Johnson has also re-worked the formula so as to assess the cost of protecting a process of production, that is the cost of protecting value added. ^{8/}

The preceding analysis may be developed for the multiple product case. Again the approach is Johnson's. In the multiple product case there will not be one, but a number of tariff rates and as these are abolished some of the domestic production of importables will be reduced, but some will disappear completely. The production cost of protection may thus rise to a maximum of τP if domestic production disappears with free trade and no part of the divergence between domestic and foreign prices is producers' surplus, that is rent. The general form of the production cost formula may therefore be written $k\tau P$, where k is the non-rent portion of the divergence between domestic and foreign prices. If domestic production does not disappear completely, and rent does accrue to producers as in the two-sector case considered above, k will be equal to $1/2\tau\epsilon$, where ϵ is the arc-elasticity of supply. The total production cost of protection may then be written,

$$\sum k_i \tau_i P_i$$

where i is any protected product, or

$$\sum \tau_i P_i - \sum r_i \tau_i P_i,$$

where r is $1 - k_i$, that is the rent portion of the divergence between domestic and foreign prices.

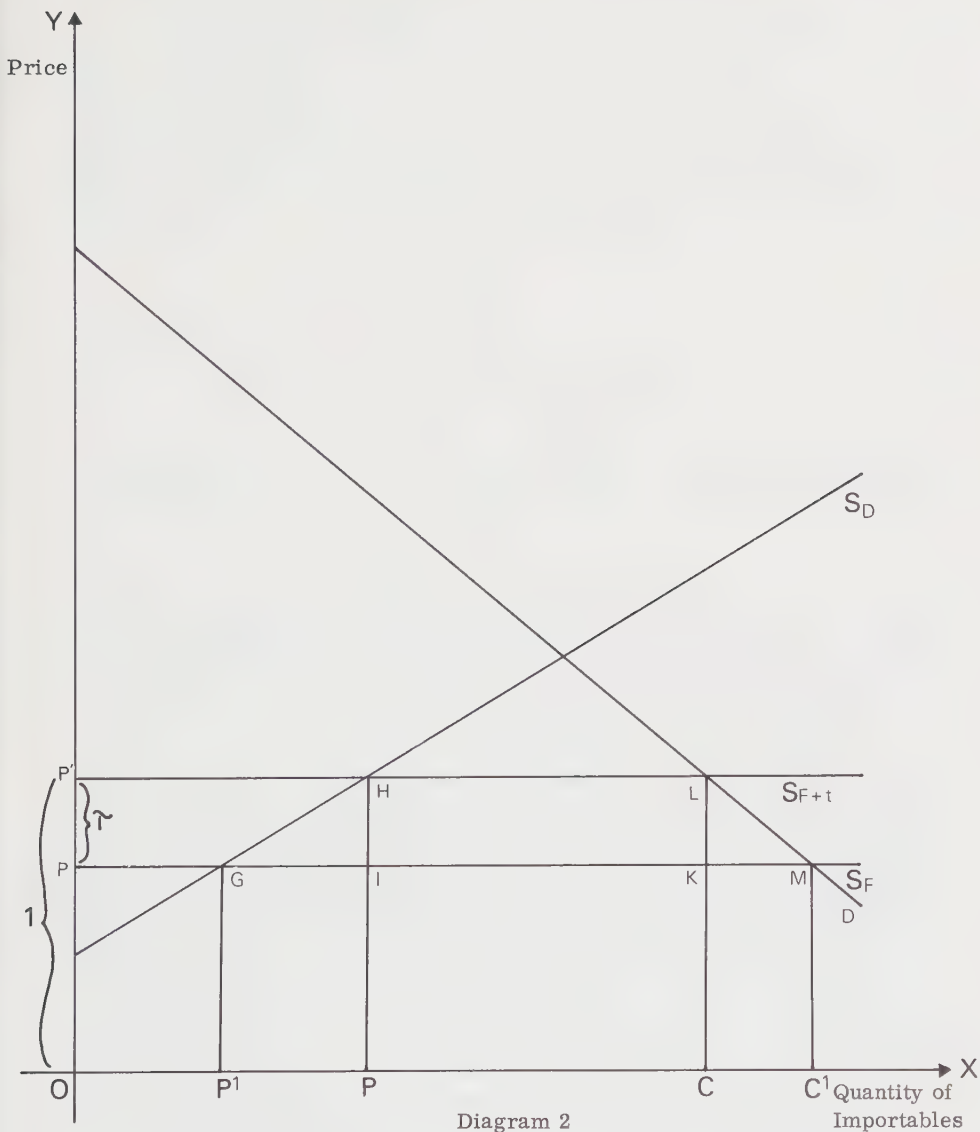


Diagram 2

In the case of consumption two complications must be taken into account in the multiple product case. First, certain products which did not enter the country under protection will be imported under free trade. If this is so then the consumption cost of protection will be lower than $1/2 \tau dC$ to the extent that there is water in the tariff, that is to the extent that the rate of tariff is higher than needed to eliminate trade. τ must therefore be re-defined in terms of the rate

of tariff which excludes the marginal unit of imports. Second, the price changes which follow the abandonment of protection will prompt substitution between imports and non-traded goods and as between non-traded goods. If prices exceed marginal cost for these products, an expansion of their consumption will increase welfare while a contraction will decrease it, and such changes will have to be included in the calculation of the consumption cost of protection. The difficulty this raises may be overlooked if it is assumed that on average the rate of divergence between price and marginal cost is the same for non-traded as for traded goods, and it will be neglected in what follows. The total consumption cost of protection may then be written

$$\sum 1/2 \tau_i dC_i$$

where τ_i is the proportion by which the domestic price of product i will fall when the country moves to free trade assuming that t is the tariff rate which excludes the marginal unit of imports.

As the changes in consumption resulting from the elimination of tariffs will occur only as the result of substitution effects, the total cost of consumption may be written

$$1/2 \sum_i \sum_j S_{ij} \tau_i \tau_j$$

where S_{ij} is the pure substitution slope (with reversed sign) restricted by the four Hicksian restrictions on the substitution terms ^{9/}, the summation includes all goods consumed, and $\tau_i = 0$ for goods initially protected. This, in turn, may be transformed ^{10/} into

$$1/2 E \sum_i e_i (\eta_i - m_i) (\tau_i)^2 - \sum_{j \neq i} s_{ji} \tau_j \tau_i,$$

where E is the aggregate expenditure at market prices, e_i is the proportion of expenditures on the i th good, η_i is the price elasticity of demand for the i th good, and m_i the marginal propensity to spend on it (so that $\eta_i - m_i$ is the constant utility elasticity of demand for the i th good), and s_{ji} is the proportion of the substitution of the i th good for other goods that is made at the expense of the j -th good when the price of the i -th good falls.

As a result of these modifications the total cost of protection may be written

$$C = \sum_i \tau_i P_i - \sum_i r_i \tau_i P_i + 1/2 E \sum_i e_i (\eta_i - m_i) (\tau_i)^2 - \sum_{j \neq i} s_{ji} \tau_j \tau_i$$

or, expressed as a proportion of national expenditure at market prices,

$$c = \frac{C}{E} = \sum_i \tau_i \pi_i - \sum_i r_i \tau_i \pi_i + 1/2 \sum_i e_i (\eta_i - m_i) (\tau_i)^2 - \sum_{j \neq i} s_{ji} \tau_j \tau_i,$$

where π_i is the proportion in national expenditure of domestically produced protected commodities.

The formula for the consumption cost may be expanded finally to

$$1/2 \sum_i e_i (\eta_i - m_i) \bar{T}_i^2 - 1/2 \sum_i e_i (\eta_i - m_i) \sum_{j \neq i} s_{ji} \bar{T}_j \bar{T}_i.$$

As s_{ji} is positive for substitutes and negative for complements, the first part of the formula will then constitute the maximum value of the consumption cost if complementarity among taxed imports is weak enough not to make the second part of the expression positive. Assuming this to be true and the distributions of e_i , $(\eta_i - m_i)$ and $\bar{T}_i$ to be independent of one another, the consumption cost may be written

$$1/2 e(\overline{\eta - m}) (\bar{T}^2 + 6 \frac{\sigma}{\bar{T}})$$

where

$$e = \sum_i e_i (\bar{T}_i \neq 0)$$

is the proportion in total expenditure of expenditure on commodities subject to protection, barred symbols denote arithmetic averages, and $6 \frac{\sigma}{\bar{T}}$ is the standard deviation of the $\bar{T}_i$ about their mean. 11/

Because of the complication of the complete formula, this will be the expression used in the empirical investigation of the cost of protection in Eastern Europe.

4. Some of the assumptions of the partial equilibrium analysis and its extension to the multi-product situation have been made explicit. Others have not. Before proceeding to the empirical evaluation of cost of protection it is thus worth listing all of them at this point. First, the discussion considers only nominal, not effective protection. Second, on the consumption side, it neglects the income effect of changes in the price of protected goods and, third, also assumes that the rate of divergence between price and marginal cost is the same for non-traded goods on average as it is for traded goods. Fourth, on the production side, it supposes that production takes place under the conditions which would be achieved given perfect competition and that protection has not impeded the introduction of the most up-to-date technology. Fifth, it assumes that the price-elasticity of the foreign supply of importables is infinite, that is that there is no terms-of-trade effect as the trading country alters its commercial policy. Finally, it makes no allowance for the devaluation which, in the absence of a reduction in the domestic price level, would be required for external balance under free trade.

Assumptions two and four will be referred to as 'customary assumptions' throughout the following pages.

II. MEASUREMENT IN DEVELOPED AND DEVELOPING COUNTRIES

5. The computations undertaken for developed countries and expressed as a proportion of national income have yielded low cost of protection figures. Considering those published from 1960 onwards we begin by summarizing two which are based on nominal tariffs, make the customary assumptions regarding demand and supply, do not correct for terms of trade effects, and make no allowance for exchange rate changes.

Wemelsfelder ^{12/} estimates that the gain from the German tariff reductions on finished industrial products in 1956 and 1957 was 0.18 per cent of national income in 1958. He calculates the increase in imports due to tariff reduction as the difference between the trend in the relation of imports to GNP before and after the tariff cuts for the period 1956 to 1959. He deduces from these figures, and from the comparison of the trend in the relation of production for domestic consumption to GNP before and after the tariff cuts for the same period, that there was no consumption effect. He then calculates the price elasticity of import demand to have been 8 - 10, and assumes the price-elasticity of the foreign supply of importables to have been infinite.

Stern ^{13/}, evaluating the gain from free trade for the United States in 1951 and 1960 arrives at a figure of 0.11 per cent of GNP in both years. He uses average tariff rates for groups of products. To determine the effects of moving to free trade, he makes use of estimates of increases in imports based on expert opinion or of representative instead of computed demand elasticities and the assumption that the elasticity of the foreign supply of importables is infinite.

Basevi ^{14/}, in a second computation for the United States for the period 1958-1962, uses effective instead of nominal tariff rates, and allows for both terms of trade effects and the devaluation required, in the absence of domestic price adjustments, for external equilibrium under free trade. But he maintains the customary assumptions concerning demand and domestic supply. Actual effective rates are replaced by the uniform tariff equivalent ^{15/} and the rate of devaluation is calculated for, successively, three sets of import and export demand and supply elasticities. On this basis, he also arrives at the small figure of 0.11 per cent of national income. But, in his case, this measures the loss, not gain, from free trade. Neglecting the terms of trade, he obtains figures for the cost of protection, or the gain from free trade, which are much higher than Stern's. But taking account of terms of trade effects which more than offset the cost of protection according to his computation, he arrives at the small benefit of protection, or cost of free trade, just mentioned.

The recent computations made for developing countries, on the other hand, have yielded higher cost of protection estimates. Thus Balassa and associates, using effective rates and allowing for terms of trade effects, the increasing cost of additional exports under free trade and the necessary exchange rate change have produced estimates, expressed as a percentage of GNP, of 0.4 per cent for Mexico in 1960, 3.7 per cent for the Philippines in 1965, 6.2 per cent for Chile in 1961 and 9.5 per cent for Brazil in 1966. ^{16/}

While the computations have become increasingly sophisticated, the use of representative rather than observed values, particularly in so far as elasticities are concerned, continues to be widespread.

III. AN ESTIMATE OF THE COST OF PROTECTION IN EASTERN EUROPE BEFORE THE REFORMS

6. Empirical data for Eastern Europe is difficult to obtain. The difficulty is magnified in the case of the cost of protection because the instrument of protection is not the tariff or, in the case of exports, the subsidy, but the target. As this is set in value or volume terms, its tariff, or subsidy, equivalent has first to be estimated. Because of the very incomplete data a sophisticated computation of the cost of protection in Eastern Europe has not been undertaken. All that has been attempted is a rough calculation based on Johnson's formulae initially and on representative values of the relevant variables. It is limited to the smaller East European countries whose trade dependence is high as compared to the USSR's.

The data required to calculate the cost of protection according to Johnson's formulae are

- i. price elasticities of demand and supply, and income elasticities of demand ;
 - ii. the proportion in national expenditure of expenditure on commodities subject to protection and the proportion in national expenditure of purchases of domestically produced protected commodities ; and
 - iii. the tariff equivalent of the targets controlling imports and exports.
- i. Price and income elasticities of demand and price elasticities of supply have not been calculated for Eastern Europe. We shall therefore take the representative values of the demand elasticities used by Johnson and assume that the price elasticity of domestic supply is unitary.
- ii. The proportion in national expenditure of expenditure on commodities subject to protection and the proportion in national expenditure of purchases of domestically produced protected commodities have not been estimated either for Eastern Europe, but representative values may be deduced as follows. National expenditure, as before, is defined as national income at market prices, and all trade is assumed to be protected. Though extreme, this does not seriously misrepresent East European practice before the reforms.

The proportion of imports in national income being high for the smaller Eastern European countries, we take 20 per cent to be the typical import ratio for these countries and, assuming the balance of goods and services to be in equilibrium, also take it to be the ratio of exports to national income. If there is no domestic production of importables, and no domestic consumption of exportables, the proportion in national expenditure of expenditure on commodities subject to protection, and the proportion in national expenditure of purchases of domestically produced protected commodities, will be about 20 per cent. If, at the other extreme, all goods are traded goods, so that all domestic production and consumption concerns importables and exportables, the proportion in national expenditure of expenditure on commodities subject to protection and of purchases of domestically produced protected commodities will each be 100 per cent. On the other hand if we assume that 50 per cent of national expenditure is composed of

non-traded goods, then 50 per cent of national expenditure will be devoted to products subject to protection and 50 per cent of national expenditure will be devoted to the purchases of domestically produced protected commodities. In what follows we shall assume that the proportion of national expenditure devoted to products subject to protection and the proportion of national expenditure devoted to purchases of domestically produced protected commodities will each vary between the limits of 20 and 50 per cent.

iii. Tariff equivalents of the targets controlling imports and exports have, on the other hand, been estimated for certain commodities and certain countries in Eastern Europe. They are generally expressed as ratios of domestic to foreign prices (or foreign trade efficiency coefficients to use the East European expression), and often as exchange rates differentiated according to commodity. In Czechoslovakia before the reforms it was estimated that they ranged from 100 to 700 per cent of the official exchange rate. ^{17/} In Poland in the late nineteen-fifties it was calculated that commodity exchange rates for exports varied from 4 to 200 zlozys per dollar. ^{18/} As for the USSR, although this is not directly relevant to our estimate, Holzman has calculated that for exports in 1956 they varied between 1.07 and 24.54 roubles per unit of foreign exchange for consumers' goods and between 0.53 and 10.98 roubles per unit of foreign exchange for nonconsumers' goods, and that the range for imports was similar. ^{19/}

Further evidence of the rate of divergence between domestic and foreign prices is provided by the extent of the unofficial devaluations which have taken place since the reforms in most of the smaller Eastern European countries, and by the proportion of exports still subject to subsidization after devaluation.

The known rates of unofficial devaluation are

Percentage rate of unofficial devaluation with
respect to the

	Rouble	Dollar
Czechoslovakia	125	275
Hungary	207	411
Romania	260	400

These have been accompanied by continued subsidies on about 50 per cent of exports in Czechoslovakia, at least until 1969, on about 66 per cent of exports in Hungary, at least in 1970 ^{20/}, and on about 50 per cent of exports in Poland where the rate of devaluation is not known. This suggests that in Romania, where the proportion of exports still subject to subsidy is not known, it may also be about half.

We may therefore conclude that the rate of divergence between domestic and foreign prices in the three countries before the reforms exceeded the rate of devaluation on over 50 per cent of all exports. Given the proportions of trade going to the rouble and dollar areas in the three countries, this means that the average rate of divergence on over half the exports would have exceeded about 170 per cent in Czechoslovakia, 260 per cent in Hungary and 330 per cent in Romania. Since rates of divergence are likely to have been higher on imports,

300 per cent seems therefore to be a justifiable figure for the representative value of the nominal rate of protection in the smaller Eastern European countries before the reforms, and for want of a more accurate estimate this is the figure we shall use.

Using the values just listed, we obtain the following results. The simplified formula for the maximum consumption cost of protection in the multiple product case, if we adopt Johnson's values for the average price and income elasticities ($(\eta - \epsilon) = 1.5$) and for the standard deviation of the $\bar{T}_i$'s about their mean ($1/3 \bar{T}$), yields a range of 9 to 23 per cent for the consumption cost of protection. The formula for the production cost assuming that some rent accrues to producers so that $(1 - r_i) = 1/2 \bar{T}$ yields an estimate ranging from 6 to 14 per cent of national expenditure for the production cost of protection, whereas if no rent accrues to producers so that $(1 - r_i) = 1$, the range is 15 to 37.5 per cent of national expenditure. In the first case, the total cost of protection thus varies between the limits of 15 to 37 per cent, whereas in the second, it varies between the limits of 24 to 60 per cent of national expenditure. These estimates are high as was to be expected from the size of the protected sector and the rates of protection. But before drawing any conclusions from them we must consider the factors left out of the calculation. These are discussed below.

We begin with the factors which, if taken into account, would reduce the figures just listed. The first is the devaluation which, in the absence of a reduction in the domestic price level, would be necessary to ensure external balance under free trade. Offsetting the rate of the necessary devaluation against the nominal protection rates, produces the net rate of protection which would be lower than our initial estimates. The unofficial devaluations which have taken place since the reforms suggest that the rate of devaluation would have to exceed 300 per cent on average to enable the smaller Eastern European countries to balance their trade without resort to trade taxes or subsidies. Such a rate of devaluation would result in zero rates of net protection on some products, and thus in a reduction in the size of the protected sector, and in net rates materially below nominal rates on others. While certain very high rates of protection would no doubt remain, most others would probably be well below 100 per cent and we shall assume in what follows that the average rate of net protection would not exceed 50 per cent.

The second factor which would reduce our initial estimates is the terms of trade effect. Although this is unlikely to turn the net cost of protection into a net gain for any of the smaller East European countries, as it might well do in the case of the USSR, it is a potential advantage of protection for the smaller East European countries who all have price-making power on international markets for some of their exports. It is difficult to supply a figure for the effect, but the work done for developing countries provides some guidance and, following it, we shall assume that the terms of trade effect increases national expenditure under protection by 0.5 per cent.

We turn to the factors which would raise our initial estimates. First, the substitution of effective for nominal rates of protection in the calculation of the production cost of protection would probably do so. There is evidence that, as

in the West, the rates on raw materials and semi-manufactures are lower than on final goods. ^{22/} Effective rates would therefore exceed nominal rates. To what extent, however, cannot be said without a knowledge of nominal rates and the use of input-output data.

Second, the removal of the assumption that production takes place under perfectly competitive conditions and given the most up-to-date technology is likely to raise our initial estimates. If the producer is not operating under the conditions in which marginal cost is equal to price, there will be a loss to the economy and this will increase if foreign competition is reduced or eliminated through protection. The likely size of this loss is not known, however. Similarly, protection is likely to reduce the incentive to adopt the most up-to-date technology. This may be divided into two components, up-to-date techniques, on the one hand, and up-to-date organization and methods of production given those techniques, on the other. The latter is now known as X-efficiency. ^{23/} The loss from the use of out-of-date techniques has not been separately assessed. The loss from X-inefficiency has, however, and has been found to be equal to up to 100 per cent or more of labour productivity in studies made for countries outside Eastern Europe. ^{24/} In Eastern Europe, X-inefficiency has been the subject of continual discussion although to what extent the ensuing loss to the economy has been due to the system of protection has not been ascertained. What is clear, however, is that the aim of the reform of the foreign trade system is to provide incentives for the improvement of allocative efficiency, the improvement of X-efficiency, and for technical innovation. Thus a loss, due to the factors which we assumed away on the production side in our initial calculation, has been attributed to the pre-reform protectionist régime and should be added to our initial estimates. The evidence suggests that it may be substantial.

Third, we must consider an important factor which is not considered by the theory and was not listed as one of the assumptions of the theory because it is one of the suppositions on which the entire theory of trade is based. This is that prices reflect relative scarcities. But in Eastern Europe until the reforms actual prices were not 'shadow prices' in this sense. No rent or interest was charged so that land and capital were treated as free factors. Basic industries were subsidized to promote industrialization. Unprofitable enterprises, furthermore, were habitually subsidized. Thus the domestic prices used to compute the tariff and subsidy equivalent of the targets controlling imports and exports underestimated the value of goods and services on the domestic market. Allowing for this fact would, therefore, increase our estimates, although to what extent is difficult to judge.

Note that, on the demand side, we cannot, without formidable empirical research, tell how the removal of the assumption relating to the rate of divergence between price and marginal cost for non-traded goods would affect the calculations. Moreover, we cannot abandon the constant-utility assumption without abandoning the attempt at estimating the consumption cost of protection.

IV. CONCLUSIONS

We are now in a position to correct our initial findings. We begin by correcting for the factors taken into account by the more recent calculations of the cost of protection in other countries, that is effective protection, devaluation and the terms of trade ; and for the underestimation of domestic prices. By the far the largest correction is likely to be the change in the exchange rate and we shall take this first.

Assuming the net rate of protection to be 50 per cent, which is the maximum we have supposed, and the proportion of national expenditure spent on protected commodities or accounted for by the domestic production of protected commodities to be 30 per cent, the cost of protection would be between 7 and 15 per cent of national expenditure. These would be maximum figures on these assumptions because of the net rate of protection considered and because, as we saw earlier, the consumption cost is a maximum. Adjusting for the terms of trade effect would reduce the figures by about half a per cent according to our reasoning. Adjusting for the underestimation of domestic prices and for effective protection would, however, raise them probably more than this, but it is difficult to say by how much.

Correcting, finally, for allocative inefficiency, X-inefficiency and the lack of technical innovation on the production side would raise the estimates still further. It may be, therefore, that taking all factors into account, the range of estimates should be raised somewhat.

The preceding results, as is abundantly apparent, amount to nothing more than an informed guess. This, however, has been formulated by taking into account the factors considered in more informed guesses, but guesses nevertheless, of the cost of protection in a number of developed and developing countries. It therefore allows a comparison to be drawn between Eastern Europe and the other areas. This suggests that the cost of protection in the smaller Eastern European countries before the reform was probably as high, if not higher, than in many developing countries.

Two further conclusions are suggested by the figures. The first is that the loss of real income due to protection in the smaller Eastern European countries before the reforms may have been about 10 per cent of their annual income, that is as much or more than the annual gain in income due to growth. The second is that, given the size of the production cost of protection, the reallocation of resources away from protected import-competing and export production into unprotected export production, in other words from taxed import-competing and subsidized export production into unsubsidized export production, could have led to a spectacular increase in exports. ^{25/} As the level of protection in the smaller Eastern European countries has not yet fallen far as a result of the reforms, this draws attention to a factor which has been relatively neglected in the discussion of the promotion of East-West trade. The limiting factor in this trade is thought to be the supply of Eastern European exports. The measures to expand this supply which have recently received most attention have been the continued liberalization of Western trade, marketing and industrial co-operation. What the preceding estimates indicate, however, is that the dismantling of Eastern European protection has its own essential part to play.

NOTES

- 1/ MEADE, James E. : The Theory of Economic Policy, Volume II : Trade and Welfare. London, Oxford University Press, 1955. But
BARONE, Enrico : Principi di economia politica. Rome, Athanaeum, 1913. Part III, especially sections 88-90, pp. 117-21, was the first to apply the concepts of consumers' and producers' surplus to demonstrate the loss from protection.
- 2/ CORDEN, W. M. : "The Calculation of the Cost of Protection". Economic Record, May 1957.
JOHNSON, Harry G. : "The Cost of Protection and the Scientific Tariff". Journal of Political Economy, August 1960. Reprinted in JOHNSON, Harry G. : Aspects of the Theory of Tariffs. London, George Allen and Unwin, 1971. Pp. 187-218. (Hereafter JOHNSON : "The Cost of Protection".)
- 3/ See, for instance, WEMELSFELDER, J. : "The Short-Term Effect of Lowering of Import Duties in Germany". The Economic Journal, March 1960.
STERN, Robert M. : "The US Tariff and the Efficiency of the US Economy". American Economic Review, May 1964.
BASEVI, Giorgio : "The Restrictive Effect of the US Tariff". American Economic Review, September 1968.
BALASSA, Bela and Associates : The Structure of Protection in Developing Countries. Baltimore, The John Hopkins Press, 1971.
- 4/ Which may be satisfied by a planning authority operating a system of central allocation.
- 5/ Assuming that I_1 is a community indifference curve and, therefore, that preference functions or policies are such that the change in price from dd to ff does not affect the welfare of the community.
- 6/ The terms equivalent and compensatory variation were introduced by Hicks (HICKS, John R. : Value and Capital. Second Edition. Oxford, Clarendon Press, 1946. Pp. 38-42 and 330-333). Johnson analyses the use of the compensatory variation given changes in the terms of trade. (JOHNSON : "The Cost of Protection". Pp. 192-193).
- 7/ JOHNSON : "The Cost of Protection". Pp. 193-196.
- 8/ JOHNSON, Harry G. : "The Theory of Tariff Structure, with Special Reference to World Trade and Development". Trade and Development. Genève, Librairie Droz, 1965. (Etudes et Travaux de l'Institut Universitaire de Hautes Etudes Internationales No. 4). Pp. 9-29.
- 9/ HICKS : Pp. 309-311.
- 10/ JOHNSON : "The Cost of Protection", p. 199.
- 11/ Ibid., p. 203.

- 12/ WEMELSFELDER, pp. 94-105.
- 13/ STERN, pp. 459-471.
- 14/ BASEVI, pp. 840-852.
- 15/ This is the tariff rate which would provide the same degree of import restriction as the actual tariff structure if it were applied uniformly to all importables including those not subject to a tariff.
- 16/ BALASSA and associates, chapter 4.
- 17/ Noviny zahraničního obchodu, No. 19, 1968.
- 18/ Economic Bulletin for Europe, Vol. 11, no. 1. Geneva, 1959, p. 70.
- 19/ HOLZMAN, Franklyn D. : "The Ruble Exchange Rate and Soviet Foreign Trade Pricing Policies, 1929-1961". American Economic Review, September 1968 (hereafter : HOLZMAN : "The Ruble Exchange Rate"), and "Comparison of Different Forms of Trade Barriers". Review of Economics and Statistics, May 1969.
- 20/ BALASSA, Bela : "Der Neue Wirtschaftsmechanismus in Ungarn". Die Wirtschaftsordnungen Osteuropas im Wandel. Hans-Hermann Höhmann Michael C. Kaser, Karl C. Thalheim (Hrsg). Freiburg, Verlag Rombach, 1972. Band I, s. 203.
- 21/ Which will be realised if retaliation does not rob the price-maker of the advantage it has gained through protection.
- 22/ HOLZMAN, "The Ruble Exchange Rate", p. 808.
- 23/ LEIBENSTEIN, Harvey : "Allocative Efficiency vs. "X Efficiency". American Economic Review, June 1966.
- 24/ LEIBENSTEIN, pp. 400-1.
- 25/ Under our assumptions the production cost of protection after devaluation would have been about 2 to 10 per cent of national expenditure. Assuming it to have been 10 per cent, the proportion of exports 30 per cent, and the proportion of unprotected exports 15 per cent, of national expenditure, the reallocation of resources away from protected import-competing and export production into unprotected export production would have raised the latter by 66.67 per cent, and total exports by 33.33 per cent.

APPENDIX II

CALCULATING COMPARATIVE ADVANTAGE : DOMESTIC RESOURCE COST AND FOREIGN TRADE OPTIMIZATION MODELS IN EASTERN EUROPE

The Eastern European foreign trade system before the reforms was notoriously inefficient. Goods were exported the foreign exchange value of which was lower than the foreign exchange value of their imported inputs. Goods were produced the foreign exchange value of whose imported inputs was higher than the foreign exchange cost of importing the goods themselves. ^{1/} The comparison of domestic to foreign prices provided not even an approximate indication of what goods to export and what goods to import. In other words, it provided no indication of comparative advantage.

The reforms which have been introduced since 1963 have corrected some of the distortions which led to this state of affairs. Nevertheless, the inefficiency of trade continues to be a problem in Eastern Europe. This paper identifies the causes of inefficiency, then turns to the remedies. These were introduced before the reforms but are still in use today in all countries with the possible exception of Hungary.

Section I considers the reasons for the inefficiency of trade and the available techniques for calculating which goods to export and which to import. Section II examines the Eastern European trade efficiency indicators and compares them to the domestic resource cost measure used to rank production according to comparative advantage outside Eastern Europe. Section III surveys the optimization models. Section IV concludes, first, that the techniques used to calculate comparative advantage are comparable or the same in East and West ; second, that the experience of calculating comparative advantage in the East has been disappointing because of faulty concepts, adherence to the labour theory of value, and the limitations of computers ; third, that programming in practice would seem to be best suited to determining long-term policy alternatives bearing on broad aggregates ; fourth, that efficiency indicators will continue to be required to measure the cost of earning or saving foreign exchange and that these should be made to conform to the domestic resource cost formula. Finally, attention is drawn to the fact that the difficulties encountered by the East European authorities in determining which goods to export and which to import, are very different in degree, but not in kind, from those facing the Western developed economies ; and that they are no different in degree from those facing many developing countries.

I. THE PROBLEM AND TECHNIQUES FOR ITS SOLUTION

The difficulties of assessing which goods to export and which to import lay not in the overvaluation of the exchange rate as is often suggested. For this entailed macroeconomic disequilibrium not allocative distortion : it meant that all exports were unprofitable and all imports profitable, but not that the relative values of traded goods were affected. Had all traded goods been final goods produced with original, untraded, factors of production, and had domestic prices been shadow prices reflecting relative scarcities, the two sets of prices

could have been compared either at the official exchange rate or directly. The resulting ratios would then have allowed the ranking of traded goods according to comparative cost, that is according to the country's comparative advantage in producing them. The highest ratio would have designated a good to be imported, the lowest a good to be exported, and the intermediary ratios goods to be successively imported and exported until, given the price elasticities of demand and supply, balance of trade was achieved. ^{2/}

The ratios could have been standardized and expressed for a unit of foreign exchange. This would have transformed them into a series of commodity exchange rates enabling the cost of producing or saving a unit of foreign exchange to be read off at a glance.

The difficulty of assessing comparative advantage was not due either to the presence of intermediate products. This may be seen by considering the justification of trade : it is to exchange domestic resources, whose alternative use is production for domestic consumption, on international markets in such a way as to raise national income above the level it would attain if the resources were employed in production for the domestic market. For trade to be efficient, the prices of traded goods must therefore measure their cost in terms of the domestic resources which would otherwise be used in production for domestic consumption. Now the prices of final goods reflect the use made in their production of both original factors and intermediate products. If, then, factors are non-traded, prices are shadow prices, and intermediate products are non-traded, that is are products whose alternative use is in the production of goods for domestic consumption, the comparison of the domestic and foreign prices of final products will accurately rank traded goods according to comparative advantage. And again the ratios may, for convenience, be transformed into a series of commodity exchange rates.

Traded Inputs

If the presence of non-traded intermediate products raised no problems for the determination of comparative advantage, the presence of traded inputs did, however. For, if inputs are traded, their alternative use is not as inputs into production for domestic consumption, but as exports or imports. This being so the cost, in terms of production for domestic consumption foregone, of the final products in whose output traded inputs enter, is measured not by their price, but by value added in the industry concerned. Where inputs are traded, therefore, the correct ranking of traded goods according to comparative advantage will be obtained not by comparing the domestic to the foreign prices of final goods, but by comparing domestic to foreign value added. This, in turn, requires not only information about domestic and foreign prices, as was the case when there were no intermediate products, or no traded inputs, but also knowledge of input-output relationships.

Note that, if it is traded inputs which create the difficulty for determining comparative advantage, overvaluation increases that difficulty. For overvaluation leads to the restriction of imports and the promotion of exports, and thus to differing rates of tax and subsidy on traded goods. Overvaluation, therefore, greatly magnifies the task of determining domestic value added. This no doubt

explains why, though all countries are faced with the problem of determining comparative advantage given traded inputs, it is developing countries and the Communist countries, that is countries with overvalued exchange rates, which have found the problem particularly intractable.

Two methods have been devised to calculate comparative advantage given the complication of traded inputs. They have been elaborated for the general case, that is the protected situation. With trade taxes and subsidies set at zero, this includes the free trade situation as a special case. The first method is to calculate the effective rate of protection (ERP) for each traded good, treating intermediate non-traded inputs as original non-traded factors, that is as producers of value added in the industry using them. The second is to calculate the domestic resource cost measure (DRC).

ERP

The effective rate of protection,

$$g_j = \frac{t_j - \sum a_{ij}t_i}{1 - \sum a_{ij}}$$

where g_j = effective protective rate on process j

t_j = nominal tariff on output J

a_{ij} = share of input i in the cost of j at free trade prices

t_i = nominal tariff on input i

as already noted, is computed with i and a_{ij} redefined as, respectively, traded input i and the share of traded input i in the cost of j at free trade prices. ^{3/} Assuming domestic prices to be shadow prices, its calculation determines the ranking of traded goods according to comparative cost. The rates of effective protection can then be expressed as exchange rates by adding 1 and noting that the sum is equal to the ratio of domestic value added to foreign value added where both are measured for a unit of foreign exchange.

This method is the simplest where the tariff is the instrument of trade control. For the tariff establishes a rate of divergence between domestic and foreign prices which is maintained whatever the variations in these prices. The price ratio is therefore given even though the domestic and foreign prices themselves may not be known. But where the tariff is not the instrument of trade control, the method requires, first, the knowledge of domestic and foreign prices and then the calculation of tariff equivalents. Where trade control is quantitative, therefore, DRC, which requires only a knowledge of domestic and foreign prices, is the measure generally resorted to.

DRC

This may be written

$$DRC_j = \frac{DC_j}{NVA_j} = \frac{\sum_i v_{ij}s_i + \sum_h \sum_i d_{hj}v_{ih}s_i}{1 - \sum_i m_{ij} - \sum_f r_f v_{fj}} \quad 4/$$

- where DC_j = cost, in terms of production for domestic consumption foregone, of domestic resources employed in j per unit of output,
- NVA_j = international value added by domestically owned factors of production per unit of output,
- v_{ij} = the amount of the i th domestic factor of production used in the j th value-adding process,
- s_i = the shadow price of the i th factor,
- d_{hj} = the amount of the h th non-traded good used in the production of j
- r_f = the repatriated return to the f th foreign-owned factor of production,
- v_{fj} = the amount of the f th foreign factor of production employed in producing j per unit,
- m_{ij} = the amount of the i th traded input employed in producing j , valued at international prices.

The first term in the numerator indicates the costs, in terms of production for domestic consumption foregone, of the factors of production employed in the j th value added activity. The second term indicates the costs, in terms of production for domestic consumption foregone, of the factors employed indirectly in the production of j , through their embodiment in non traded goods employed in the production of j . The denominator expresses international value added per unit of output of j less repatriated payments to foreign factors per unit of output.^{5/} The measure directly establishes the cost of producing or saving a unit of foreign exchange. In other words, it yields a series of commodity exchange rates which rank productive activities according to comparative advantage.

Note that ERP and DRC are equal, without any redefinition of a_{ij} in the effective protection formula, provided all goods are traded goods, domestic prices are shadow prices and factors of production are immobile internationally.^{6/}

To solve the difficulties raised by the presence of traded inputs, the Eastern European authorities resorted to what may best be described as Marxist approximations to DRC. The resulting indicators are considered in the next section where they are compared to the domestic resource cost measure.

Domestic Distorsions

But, having dealt with traded inputs, a major difficulty for assessing comparative advantage still remained. This was distorted domestic pricing. It was the result of the implementation of the three principles governing price determination before the reforms, namely adherence to the labour theory of value, subsidization and price fixing. Adherence to the labour theory of value in its Marxist interpretation meant that the value of a product was considered equal to the average value^{7/} of the labour directly and indirectly embodied in it. The choice of average value meant that price could not equal cost unless costs were constant.

The equation of value with the value of the labour input meant that prices systematically underestimated costs because the other original factors of production, land and capital, were treated as valueless, that is as free factors. Subsidization, of basic industries to promote industrialization specifically and, production being paramount, of uneconomic production generally, meant that even labour was often disregarded as a standard of value and that prices became purely arbitrary. Price-fixing, finally, for periods of five to seven years, meant that even where prices reflected labour value in the base year, they rarely did so at the end of the price-fixing period. Domestic pricing, therefore, gave no indication of relative scarcities on the domestic market.

Linear Programming

The technique elaborated to determine scarcity or shadow prices, that is prices which are consistent with the optimal allocation of resources, is linear programming. This is concerned with the maximization or minimization of an objective function subject to constraints, and it may be shown ^{8/} that the solution of the dual problem associated with a primal problem relating to the maximization of production or the minimization of resource use, for instance, allows shadow prices to be attributed to inputs and outputs.

To solve the problem created for foreign trade by adherence to the labour theory of value and the other distortions in domestic pricing, the Eastern European planners resorted to this technique. It led them to abandon the labour theory of value and to correct other defects of domestic pricing. Their use of linear programming is briefly described in the section after next.

II. FOREIGN EFFICIENCY INDICATORS

The decision to calculate comparative advantage in Eastern Europe led first to the computation of foreign trade efficiency measures variously referred to as indicators, indices, criteria or coefficients. Although the first public discussion of foreign trade efficiency took place in Hungary in 1954 ^{9/}, actual indices, which were first developed in Czechoslovakia, seem only to have been published towards the end of the nineteen-fifties. ^{10/} The indicators were numerous and differed in form from country to country. But their object was the same, - to determine the commodity structure of trade - and their components thus essentially the same. The following analysis therefore confines itself to one set of indicators only. This is the list presented by the United Nations ^{11/} and based on Polish practice.

1) The most simple, historically the first, and the most readily used criterion was the 'financial indicator'

$$F = \frac{P}{D}$$

where P ---- domestic price in domestic currency

D ---- world price in foreign currency (f. o. b. frontier)

This ranks traded goods according to the ratios of their domestic to their foreign prices but as will be apparent by comparing it to the DRC formula, it provides no measure of domestic resource cost and thus no indication of comparative advantage unless it can be assumed that there are no traded inputs and that domestic prices are shadow prices. As these conditions were very far from being fulfilled in Eastern Europe, the indicator was useless in determining the cost of earning or saving a unit of foreign exchange, and it may be asked why it was computed. A plausible answer is that it prompted planners and traders to consider the relation between domestic and foreign prices which management and accounting methods led them otherwise to neglect.

A variation on the financial indicator was the 'gross coefficient of efficiency'

$$B = \frac{P - A}{D}$$

where A - profit in the last stage of processing.

The coefficient removes the domestic distortion created by arbitrary rates of profit. But, as will be apparent from the previous discussion, this is not sufficient to transform the coefficient into an adequate measure of comparative advantage.

2) A more ambitious measure was the 'last-phase labour cost indicator'

$$L = \frac{P - A - M_d}{D - M_f} = \frac{C_1}{D_1}$$

where M_d = cost (measured in domestic prices) of all raw materials, intermediate products and other material inputs used for the production of the final product.

M_f = cost in foreign currency (measured in world market prices) of the components included in M_d .

C_1 = last phase processing cost.

D_1 = net gain of foreign currency, earned at the last phase processing cost.

This relates value added directly by labour domestically to the same sum valued at international prices and has the superficial appearance of a labour theory of value version of DRC. But comparing it to the DRC formula shows that it excludes from both the numerator and the denominator the value added indirectly by labour through its embodiment in non traded intermediate products, and that it takes no account of traded factors. It thus provides no measure of the opportunity cost of producing or saving a unit of foreign exchange even in terms of labour value alone.

3) The omission of value added indirectly by labour is corrected in the 'coefficient of global efficiency'

$$G = \frac{C_g}{D - M_i}$$

where C_g = total labour cost (direct and indirect) of the commodity including the labour costs of processing in the given phase and of material costs in that phase. The material costs are expressed in terms of the cumulated labour costs of all previous stages in the production of the commodity under consideration.

M_i = foreign currency value of imported raw material inputs.

This relates direct and indirect labour cost to foreign value net of imported inputs. Nevertheless, the coefficient is not a labour theory of value version of the DRC measured either. For the numerator includes traded inputs and the denominator makes no adjustment for exportable inputs or for returns to foreign labour.

4) The 'net coefficient of labour efficiency' expressed as a commodity exchange rate is, however, a labour theory value version of DRC. It is written

$$g = \frac{C_n}{D_n}$$

where C_n = domestic cost of production, that is the cost of production net of the domestic value of imported and exportable inputs, calculated so as to reduce material costs to wages.

D_n = world market price in foreign currency, net of the foreign currency value of imported and exportable materials.

As will be seen by comparing it to the DRC measure, its only defect is that it does not subtract returns to foreign labour in the denominator. But in Eastern Europe where international labour movements are minimal, this is not a major failing.

5) For completeness' sake, it is worth also mentioning the 'coefficients of material intensity'

$$M = \frac{M_f}{D}, \quad M = \frac{M_e}{D}, \quad M = \frac{M_i}{D}$$

where M_f = value of all material inputs at world prices

M_e = value of exportable and imported material inputs at world prices

M_i = the value of imported material inputs at world prices.

These are only indicators of international value added and, as such, are no measure of comparative advantage but only of the foreign exchange to be earned or saved by selling a unit of exports or producing a unit of import-competing goods. Their use, however, eliminated exports, or import-competing production, whose foreign value was negative, that is whose value on foreign markets was lower than the traded inputs used in their manufacture.

In attempting to calculate comparative advantage, therefore, the East Europeans first elaborated formulae which sought to measure the resource cost of producing or saving foreign exchange. They did so in terms of their theory of value, that is the labour theory of value. But, with one exception, their formulae were erroneous even in these terms. The exception was the 'net coefficient of labour efficiency'. Moreover, as their theory of value was faulty, even this indicator could not provide an accurate ranking of activities according to comparative advantage. Attention thus turned to linear programming as a technique for determining the optimum structure of trade. Before considering this, however, two features common to all the indicators deserve brief comment.

First, the indicators just considered are all expressed in terms of world prices. This is unrealistic for until the early nineteen sixties, virtually the entire trade of the Eastern European countries was conducted within the framework of bilateral balancing agreements, and after this Communist trade, that is the major part of East European trade, continued to be conducted within such a framework. The traders of a given East European country thus transacted not on the basis of a single world price, but on the basis of a number of bilaterally determined prices for a given traded good. In an attempt to correct for this factor what may be termed an 'index of directional efficiency' was computed.

$$r = \frac{\sum_{i=1}^n D_i^r X_i^r}{\sum_{i=1}^n D_i^o X_i^r} \div \frac{\sum_{j=1}^n D_j^r Y_j^r}{\sum_{j=1}^n D_j^o Y_j^r} \quad \begin{matrix} (i=1, 2, \dots, n) \\ (j=1, 2, \dots, m) \end{matrix}$$

where D_i^r = price on market r of imported commodity i
 D_i^o = world market price (taken as a basis) of imported commodity i
 X_i^r = quantity of commodity i imported from market r
 D_j^r = price on market r of exported commodity j
 D_j^o = world market price (taken as a basis) of exported commodity j
 Y_j^r = quantity of commodity j exported to market r .

This determined the relative profitability of trading to one country rather than another, the standard being the world market. But because it compared price levels instead of the prices of individual products, the index proved useless in determining comparative advantage. Directional adjustment had then to await the techniques evolved in connection with linear programming.

Second, the indicators assume that foreign prices are given, that is that foreign demand and supply curves are infinitely price-elastic and that the Eastern European countries are price-takers on world markets. This again is unrealistic for all the Eastern European countries have price-making power in international markets for some of their export goods at least. ^{12/} Where they have, the indicators overestimate the foreign exchange receipts to be expected from an additional unit of exports and underestimate the foreign exchange expenditures to be spent for an additional unit of imports. The assumption of infinitely elastic foreign demand and supply curves is, however, also a feature of DRC.

III. TRADE OPTIMIZATION MODELS

The second technique used to calculate comparative advantage was linear programming. This was used to elaborate short-term, medium-term and long-term foreign trade optimization models, the short and medium-term models receiving most attention. The models surveyed below are Polish models developed by or in association with Trzeciakowski ^{13/} and have been the chief source of inspiration of foreign trade model-building in East Europe.

We begin by the short-term model the notation for which is :

- X_j = the level of activity j in physical units,
- Y_k^{Er} = exports of a commodity k to market r in physical units,
- Y_k^{Ir} = imports of commodity k from market r in physical units,
- A_{kj} = technological coefficient determining output (if $A_{kj} > 0$), or input (if $A_{kj} < 0$) of commodity k per unit of activity j,
- P_k = domestic demand for commodity k for consumption and investment, in physical units,
- d_k^{Ir} = import price c.i.f. of a physical unit of commodity k on market r expressed in the currency of market r,
- S^r = planned balance of trade with market r expressed in the currency of market r,
- b_j = maximum capacity j (highest possible level of production activity j) in physical units,
- $\prod_k^{Er}$ = demand for commodity k on market r,
- $\prod_k^{Ir}$ = supply of commodity k for import purposes on market r,
- c_j = unit cost of activity j (including labour costs only, and excluding costs of material inputs, amortization and accumulation),
- n = number of production activities,
- s = number of foreign markets,
- m = number of commodities.

The constraints of the model are product market equilibrium, external or, more precisely, trade equilibrium, capacity constraints and the requirement that exports and imports should not exceed, respectively, demand and supply on foreign markets.

The equations for product market equilibrium are :

$$\sum_{j=1}^n A_{kj} X_j + \sum_{r=1}^S Y_k^{Ir} - \sum_{r=1}^S Y_k^{Er} = P_k \quad (k=1, \dots, m) \quad (1)$$

Those for external equilibrium are :

$$\sum_{k=1}^m d_k^{Er} Y_k^{Er} - \sum_{k=1}^m d_k^{Ir} y_k^{Ir} = S^r \quad (r=1, \dots, s) \quad (2)$$

the other constraints being :

$$0 \leq X_j \leq b_j \quad (j=1, \dots, m) \quad (3)$$

$$0 \leq Y_k^{Er} \leq \prod_k^{Er} \quad (k=1, \dots, m), \quad (r=1, \dots, s) \quad (4)$$

$$0 \leq Y_k^{Ir} \leq \prod_k^{Ir} \quad (k=1, \dots, m), \quad (r=1, \dots, s) \quad (5)$$

Given planned demand and planned foreign trade balances, domestic capacity, and foreign demand, supply and foreign prices, output will be determined. The plan will be optimal, however, when the cost of production in terms of the only factor which is not given in the short-run, that is labour, is at a minimum.

The objective function is therefore

$$\sum_{j=1}^n C_j X_j = \text{minimum} \quad (6)$$

The general medium-term model was developed from the short-term model and differs from it only in that it includes two variable factors. These are labour and 'supplementary investment'. The latter is defined as investment undertaken over and above the given basic investment for the period, and subject to completion within a relatively short time. The medium-term plan will be optimal when the cost of production in terms of the two variable factors is at a minimum.

The solution of the dual problem associated with the primal problem of minimizing cost, whether in the short or medium-term, yields shadow, that is scarcity, prices of the inputs and the outputs. Hence, the medium-term model which attributes a price to supplementary investment results in the abandonment of the labour theory of value. The solution of the dual problem also yields shadow exchange rates. These 'marginal' rates are differentiated according to the r markets, that is are shadow 'directional' rates.

Because of the very large number of variables involved, the general model just outlined cannot be computed. It has, however, been proved that the optimization of the general model can be reduced to optimizing partial problems. ^{14/} The general model has therefore been decomposed into partial, or sectoral, models, the constraints of which are :

$$\sum_{j=1}^{\alpha} A_{kj} X_j + \sum_{r=1}^S Y_k^{Ir} - \sum_{r=1}^S Y_k^{Er} = P_k - \sum_{j=\alpha+1}^n A_{kj} X_j^0$$

$$\begin{aligned}
 & 0 \leq X_j \leq b_j & (k=1, \dots, \beta) \\
 & 0 \leq Y_k^{Er} \leq \prod_k^{Er} & (j=1, \dots, \alpha) \\
 & 0 \leq Y_k^{Ir} \leq \prod_k^{Ir} & (k=1, \dots, \beta \quad ; \quad r=1, \dots, s)
 \end{aligned}$$

An economy, given demand, can be likened to a producer of a given output whose object is to allocate the resources at his disposal so as to minimize cost. A sector, by contrast, is like a firm which buys inputs in input markets and sells outputs in output markets. The objective function of the sector is then not to minimize cost but, like the firm, to maximize profit. In the short-term, its objective function is therefore :

$$\begin{aligned}
 & \sum_{r=1}^s M^r \sum_{k=1}^{\beta} (d_k^{Er} Y_k^{Er} - d_k^{Ir} Y_k^{Ir}) - \sum_{j=1}^{\alpha} (c_j - \sum_{k=\beta+1}^m 1_k A_{kj}) X_j \\
 & = \text{maximum}
 \end{aligned}$$

where M^r is the shadow rate of exchange and 1_k the shadow price of commodity k . In the medium-term, the cost of supplementary investment must be added to labour cost.

M^r is a parameter, which, as the shadow price implied by the balance of trade constraints, would be obtained by solving the dual problem of the general model, if the general model could be calculated. As it cannot, M^r in practice is estimated statistically for the short-term optimization of trade and on a statistical basis modified according to certain assumptions concerning, for instance, trade agreements, for the medium-term optimization of trade. ^{15/} 1_k would also be obtained by solving the dual problem of the general model if this could be computed. But, even without this, the relation between M^r and 1_k implicit in the general model, allows values of 1_k , known as calculated values, to be obtained from the statistically determined (calculated) M^r 's, for the first iteration of the partial model. Lists of coefficients for the multiplication of domestic prices have in fact been prepared on this basis for planning purposes. ^{16/}

The statistical estimates and the computer time necessary for the solution of even the partial models, has meant that these have only been attempted for certain sectors and then only given a considerable degree of aggregation. Thus the optimization of trade which partial models promised has not been achieved, and the problem of the structure of trade has remained, if only within the aggregated sectors. To determine the commodity pattern of trade, resort has therefore once more been had to indicators which, however, now make use of the programming parameters. Hence the 'index of effectiveness'. ^{17/}

$$\begin{aligned}
 WE &= \frac{c_k}{d_k^r K^r} \approx M^0 && \text{for the short term and} \\
 &= \frac{c_k + qI}{d_k^r K^r} \approx M^0 && \text{for the medium term}
 \end{aligned}$$

where

- c_k = calculated labour and material costs per unit of commodity k
 qI = interest rate on supplementary investment
 d_k^r = foreign currency price of commodity k on market r discounted for the delivery period (f.o.b. for exports, c.i.f. for imports)
 K^r = calculated rate of directional efficiency, expressing the ratio between the marginal rate for the currency of market r (M^r) and the marginal rate of the basic currency (M^0)
 M^0 = marginal rate for the basic currency ($r = 0$).

This indicator takes account of the division of the international market and eliminates some of the distortions associated with domestic price determination. In this respect, it is an improvement over the indicators elaborated prior to planning. But it does not go on to eliminate traded inputs from the numerator and denominator ^{18/} or the returns to traded factors from the denominator. Thus, despite the corrections it introduces, it also falls short of measuring DRC and of providing an accurate ranking of activities according to comparative advantage.

In sum, we may conclude that although programming permits the optimization of trade in theory, in practice the difficulties of computation have meant that it has not determined the optimal trading pattern. Had it done so, moreover, the lack of any connection between enterprise management and the computed values, would have robbed programming of any practical consequence. For it to have had any effect, both the price system, and enterprise accounting and premia, would have had to be revised.

Programming, however, did justify the abandonment of the labour theory of value which was important not only for foreign trade but for the allocation of resources generally throughout Eastern Europe. But the better insight into value it has permitted, has not been carried through to the calculation of the foreign trade efficiency indicators elaborated with programming parameters. These, as noted, continue to be conceptually faulty measures of DRC and thus of comparative advantage.

IV. CONCLUSIONS

A number of general conclusions emerge from the preceding consideration of the techniques used to calculate comparative advantage in Eastern Europe.

First, the techniques used are comparable or the same as those used in the West to determine the structure of trade or to allocate resources optimally. The same problem, that of allocating scarce resources efficiently, has thus given rise to the same solutions.

Second, East Europe's experience of calculating comparative advantage has been disappointing. The reasons have been faulty concepts, adherence to the labour theory of value, limitations on computing. The problem of assessing comparative advantage remains, however, because of the presence of traded inputs. It remains acute because of the continued overvaluation of the Eastern European currencies despite substantial unofficial devaluations in the smaller East European countries.

Third, short and medium-term programming has not achieved the optimization of trade because enterprise management has not been organized to execute the computed solutions and, essentially, because it has been found impossible in practice to compute programming models which were sufficiently detailed to determine the optimum commodity structure of trade. The present decentralization of the foreign trade system in East Europe is not geared to the execution of optimal short and medium-term plans. The most effective use of programming would thus seem to be in determining the implications of long-term policy alternatives affecting broad aggregates. This in fact seems to be the trend under the economic reforms.

Fourth, with programming assigned to the determination of long-term options, indicators will have to continue to be used to calculate the commodity structure of trade. The indicators used so far have been inaccurate measures of the cost of producing or saving foreign exchange. They could be replaced by the ERP measure as the East European countries adopt and apply tariffs. Until then, the most practical solution is to adjust the indicators to conform to the DRC formula.

Finally, it is worth noting again that the difficulties encountered by the East Europeans in determining the structure of trade are no different in kind, though very different in degree, from those facing the Western developed economies. Moreover, they are no different in degree from those encountered in developing countries. This is evident from the literature on the foreign trade system in developing countries, and on DRC computation in particular. ^{19/}

NOTES

1/ For examples of the former see BALASSA, B. : "The Economic Reform in Hungary." Economica, February 1970, p. 16. For examples of the latter see BALASSA, B. : The Hungarian Experience in Economic Planning. New Haven, Yale University Press, 1960, pp. 180-183 ; PRYOR, F.L. : The Communist Foreign Trade System. London, George Allen and Unwin, 1963, pp. 28-29 ; and WILCZYNSKI, J. : The Economics and Politics of East-West Trade. London, Macmillan, 1969, p. 311.

2/ See L'HUILLIER, Jacques : "Problems Relating to the Expansion of Trade between Free-Enterprise Economies and Collectivist Economies." International Chamber of Commerce. Document No. 102/1. 25. 1. 60, p.3 for a description of such a ranking given the overvaluation of exchange rates in Eastern Europe.

3/ Where there are traded inputs in non-traded inputs, the effective rate becomes

$$g_j = \frac{t_j - (a_{ij}t_i + w_{hj}t_w)}{1 - (a_{ij} + w_{hj})}$$

where, in addition to the previous symbols,

w = the traded input into non-traded input h

t_w = nominal tariff on traded input w

a_{hj} = share of non-traded input h into output j

CORDEN, W.M. : The Theory of Protection. Oxford, Clarendon Press, 1971, p. 159.

4/ KRUEGER, Anne O. : "Evaluating Restrictionist Trade Regimes : Theory and Measurement." Journal of Political Economy, January/February 1972 ; p. 53.

5/ Ibid.

6/ Calculations of ERP, however, have taken international factor movements into account. For reference see BALASSA, Bela and SCHYDLOWSKY, Daniel M. : "Domestic Resources Costs and Effective Protection Once Again." Journal of Political Economy, January/February 1972, pp. 67-68.

7/ MARX, Karl : Capital. Moscow, 1961. Vol. I, p. 39.

8/ For a simple demonstration, see BAUMOL, William J. : Economic Theory and Operations Analysis. Second Edition. Englewood Cliffs, Prentice-Hall, 1965, Chapter 6.

9/ LISKA T. and MARIAS A. : "A gazdaságosság és a nemzetközi munkamegosztás" (Optimum Returns and International Division of Labour), Közdasági Szemle, No. 1, 1954, pp. 75-94, extracts of which are reproduced in translation in Economic Survey of Europe in 1954, Geneva, United Nations, 1955, pp. 131-135.

- 10/ CERNIANSKY, V. : "Die Preisbasis auf dem sozialistischen Weltmarkt." Der Aussenhandel. March 1958.
- 11/ Economic Survey of Europe in 1962. Part 2. Economic Planning in Europe. Geneva, United Nations, 1965. (Henceforth Economic Planning in Europe). Chapter IV, pp. 43-47.
- 12/ Poland has price-making power in the international markets for coal, sulphur, sugar, meat and dairy products, bloomery products, iron and some other ores according to GLOWACKI, Jerzy and TRZECIAKOWSKI, Witold : Some Problems of Foreign Trade Planning in Poland : Simplified Methods of Using Optimization Models for Medium-Term Planning of Foreign Trade. Warsaw, Foreign Trade Research Center, 1967. (Henceforth GLOWACKI and TRZECIAKOWSKI). p. 17.
- On enquiry I was told that Czechoslovakia had price-making power on the international markets for beet sugar, porcelain, glass, hops, malt, costume jewelry, beer, shoes.
- 13/ MYCIELSKI, J., REY, K., TRZECIAKOWSKI, W. : "Decomposition and Optimization of Short-Run Planning in a Planned Economy." T. Barna (Ed.) : Structural Interdependence in Economic Development. London, 1963. (Henceforth MYCIELSKI, REY and TRZECIAKOWSKI).
- TRZECIAKOWSKI, Witold : Methods for the Determination of the Marginal Rate and Simplified Methods for Analysis of the Effectiveness of Foreign Trade. Warsaw, Foreign Trade Research Center, 1964.
- GLOWACKI and TRZECIAKOWSKI.
- The formulation for the short-term model used in the text is reproduced in Economic Planning in Europe, Appendix to Chapter IV.
- 14/ MYCIELSKI, REY and TRZECIAKOWSKI.
- 15/ GLOWACKI and TRZECIAKOWSKI, pp. 11-21.
- 16/ Ibid., pp. 21-27.
- 17/ Economic Planning in Europe, p. 52.
- GLOWACKI and TRZECIAKOWSKI, pp. 32-33.
- 18/ Economic Planning in Europe, p. 52.
- 19/ See BRUNO, Michael : "Domestic Resource Costs and Effective Protection : Clarification and Synthesis." Journal of Political Economy, January/February 1972.
- KRUEGER, Anne O. : "Some Economic Costs of Exchange Control : The Turkish Case." Journal of Political Economy, October 1966.

APPENDIX IIIFOREIGN TRADE POLICY IN EAST EUROPE : AUTARKY - A MISCONCEPTION

References to East European 'autarky' abound. ^{1/} Analyses of the question are many. ^{2/} This appendix reviews the question and brings it up-to-date by considering East European foreign trade policy to-day. The method chosen is to examine available statistics and, where these suggest autarky, to seek confirmation in trade policy measures and pronouncements.

Section I defines autarky, Section II considers the statistical evidence for it in Eastern Europe, Section III examines trade policy measures and pronouncements, and Section IV lists conclusions. The chief conclusions are that the East European countries did not pursue a policy of autarky, but a policy of protection for industrialization until 1955, and a policy of trade for development after that. Both the USSR's policy between the two wars and the East European policy after the war are considered. For there is a continuity between the first during the nineteen-thirties and the second during the early nineteen-fifties.

I. DEFINITIONS

Autarky is self-sufficiency. In international economics it can thus be defined as a situation in which a country's own production suffices for its consumption, that is in which a country transacts no trade. A policy of autarky may then be described as the measures taken to achieve this end, either immediately or in the future. This is the meaning we shall adopt in the course of our enquiry. It is a 'harder', and therefore more easily testable, version of Alan A. Brown's definition, "autarky: a policy designed to achieve the greatest possible economic self-sufficiency or a policy to reduce trade as much as possible"....^{3/}

Many other meanings have been attributed to autarky in the course of the debate over East European practice. But they often alter the original definition of the term to fit the facts and, therefore, cannot constitute independent criteria by which to assess the facts. Wiles, for instance, equates autarky with protection. ^{4/} His justification, no doubt, is that he has concluded that the East European countries have pursued protectionist rather than autarkic policies. But nothing but confusion results from defining autarky as protection and then discussing East European 'autarky', in the sense of protection. To avoid such pitfalls we take the rigorous meaning of the term, and use any divergences between the standard and the facts not to redefine autarky, but to define the policy of the East European countries.

II. THE EVIDENCEStatistics

The statistical data to be considered relates to the USSR's trade between the two world wars and to the USSR's and the other East European countries' trade since the second world war. Tables, broken down for the post-war period by main areas of origin and destination, appear at the back of the text. Four sets of statistics will be examined. They relate to the level of trade, the share of trade in domestic supply, the 'normal' level of trade, and the level of trade with capitalist countries.

The Level of Trade

The first observation the tables prompt is that the USSR after 1917, and the other East European countries, after adopting Soviet-type economic systems in the second half of the nineteen-forties, have never foregone trade. In all the countries considered, trade instead has increased several times between the initial and the most recent of the years listed. Moreover, the periods of sharp contraction which have occurred can all be explained otherwise than by a policy of autarky, and only one indeed has been attributed to such a policy.

Thus the virtual cessation of Soviet trade between 1918 and 1921 was due to war, invasion and foreign blockade. The marked contraction of Soviet trade between 1932 and 1936 was due, according to Soviet writers, to the ability to replace imports by import-competing production following the completion of the first five-year plan, to the ability to reduce exports following the reduction in imports, and, given the steeper fall of imports than of exports, to the need to reduce short-term foreign debt; according to Baykov ^{5/} who has reviewed both the explanations and the statistics, the contraction was due to the need to reduce short-term debt. Finally the substantial reduction in Hungarian exports in 1956 and 1957 was due to the Hungarian Revolution and its aftermath.

Only the steep decrease in the trade of the USSR between 1932 and 1936 has been attributed to a policy of autarky. Hence, considering only the level of trade, it is for this period alone that we must seek independent evidence of the pursuit of autarky in trade policy measures and pronouncements.

The Share of Trade in Domestic Supply

It can be argued, however, that, although the absolute level of trade has increased in all countries, so has production. This raises the possibility that production has increased faster than trade, and that the proportion of domestic supply made up of exports and imports has thus dwindled. This could be an indication that a policy of autarky was being pursued. We must therefore consider whether behind the absolute rises such a trend is evident. We begin by considering Soviet statistics.

During the period extending from 1930 to the beginning of the war, trade grew more slowly than production and the percentage of trade in national income fell to about 0.5 per cent. Holzman, in an analysis of 38 products or groups of products shows, moreover, that as between the start of the first five-year plan, in 1928 and 1938, exports as a percent of output generally fell and imports as certain new exports (autos, trucks and tractors) appeared and the USSR, from being a net importer became a net exporter of certain products, notably hard coal, pig iron, motor vehicles, dressed and dyed pelts, and fertilizers. ^{6/}

After the second world war, the growth of trade outstripped that of production in all the East European countries during the Stalinist period, that is the 'autarkic' period according to East European literature. This also seems to have been true for the period 1953-1967 on average ^{7/} and for 1968, 1969 and 1970. ^{8/} Moreover, after an interruption in 1971, it seems to have been the case again in 1972. ^{9/}

Holzman's analysis of 38 Soviet exports and imports extends to 1958. While his import figures for the post-war period are too incomplete to be significant, his data for exports confirm the trend in the total figures. They show that as compared to 1928, and even more as compared to 1938, the share of exports in production generally rose and often did so appreciably. Pryor has undertaken a comparable analysis of 168 commodities divided into three classes, raw materials, industrial equipment and consumer goods for Eastern Germany. For the periods 1955-1958 and 1958-1961, he also shows that, except for raw materials in the first period, the share of trade in production increased for all sectors in both periods. ^{10/} Similar analyses by product or product class do not seem to have been undertaken for the other countries, however. ^{11/}

Available statistics relating to trade as a percentage of domestic supply thus seem to be compatible with the pursuit of autarky only for the USSR during the nineteen-thirties. For the Eastern European countries after the war, on the contrary, they suggest a growing dependence on trade. It is again only for the Soviet Union in the nineteen-thirties that we need seek confirmation of autarky in policy measures and pronouncements, therefore.

The 'Normal' Level of Trade

However, if the level of trade has risen in all the East European countries, if trade as a proportion of domestic supply has risen in all East European countries since the war, trade may nevertheless be lower in East Europe than it ought to be, and this may indicate that autarky was the ultimate objective of the East European authorities. To test this hypothesis, it is necessary both to have a standard in terms of which to measure the importance of trade, and to have a time series of computations available. To establish a standard, multiple correlations between trade and various other variables have been calculated, regression equations derived, and the 'normal' level of trade then calculated for the countries under discussion. Pryor thus relates trade per head to industrial production per head and to population and uses both his formula based on correlations, for eight West European countries, and Chenery's equation based on a statistical study of sixty market economies. Chenery's formula produces lower estimates of 'normal' levels, or what Pryor refers to as 'trade potential'. Nevertheless, the calculation of the trade potential of the seven East European countries by both methods shows that these countries did not achieve even 50 per cent of their trade potential. The calculations however, are for 1955 only. ^{12/}

A more ambitious study was published by the United Nations Economic Commission for Europe in 1970. ^{13/} This correlates the level of trade, or, more precisely, trade dependence (the share of imports or exports in national income), with the level of development (indicated by gross domestic product per head) and the size of the trading country (measured by the square root of population). 23 European countries are considered for the years 1955 (average 1953-1957), 1960 (average 1958-1962) and 1965 (average 1963-1967). The 23 European countries include only 6 East European countries, the USSR and Albania being excluded.

As gross domestic product is not gross material product, the measure of national production in the socialist countries, gross domestic product figures for both Western and Eastern European countries were obtained by the following

calculations. The relationships between 36 physical indicators and gross domestic product per head (in dollars at official exchange rates) were established in 29 West European and overseas countries in 1965. The 36 estimates of GDP per head obtained for each country on this basis were averaged to yield a single figure in each case. The correlation exercise was then repeated with the estimated GDP per head values ; and the resulting regression equations were used to estimate GDP per head for all countries. Multiple correlations were then run for the trade dependence ratio and GDP per head and the square root of the population, and regression equations formulated. Trade dependence was then calculated and compared to actual trade dependence.

The results show that, with the exception of Bulgaria and Romania, and Hungary for exports, the actual trade dependence of the East European countries was lower than the computed value. Moreover, Czechoslovakia and East Germany were the two European countries, out of the sample of 23, to have the lowest trade dependence. ^{14/}

Both Pryor's and the United Nations calculations thus suggest that the trade of the East European countries, with the exception perhaps of Bulgaria, Romania and possibly Hungary, is lower than it ought to be and, therefore, according to the hypothesis advanced, that these countries may be pursuing policies of autarky. ^{15/} The consideration of statistics of trade potential or trade dependence thus incites us, in contrast to the statistics of the level of trade or of the share of trade in domestic supply, to examine evidence of autarkic intentions in Eastern Europe during the post-war period.

The Level of Trade with Capitalist Countries

Finally, although the absolute level of trade has risen sharply in all the East European countries in the post-war period, this could mask a contraction of trade with the West. This, in turn, could be taken to indicate that a policy of autarky was being pursued by the group of socialist countries as a community rather than by individual socialist countries on their own. In other words, while they continued to trade with each other, the socialist countries would eliminate trade with the rest of the world.

Looking at tables II to VIII, it is clear that, with the exception of the USSR, East Germany and, from the data available, Bulgaria and Romania, the other East European countries did sharply contract their exports to, and imports from the West during the period 1950 to 1954. Later, however, their trade with this area rose without serious interruption. We must therefore also consider whether there has been any independent evidence of the socialist countries' intention to eliminate trade with the rest of the world during the early fifties at least. ^{16/}

Foreign Trade Policy Measures and Pronouncements

Before considering whether there is any evidence which suggests autarky and which is not statistical, it is useful to go back to Lenin. For it is he who established the broad lines of economic strategy for the USSR and hence for the Communist countries in the post-war period.

Lenin

Lenin's economic objective was the independence of the USSR. This, he believed, required the Soviet Union to catch up and overtake the economically developed countries. ^{17/} This, in turn, required industrialization and technical advance.

To maintain independence while the backward economy of the USSR was being industrialized, it was necessary to protect the Soviet Union from foreign capital and from paying tribute to foreign capitalists. This protection was to constitute the function of the monopoly of trade. ^{18/} At the same time it was necessary to ensure that the developed countries did not wipe out the infant industry of the Soviet Union by subsidizing their exports to undercut Soviet production. To ensure that foreign prices had no effect on domestic prices and, hence, production, the control of trade maintained by the monopoly of trade had to be direct. ^{19/}

It is important to stress that the overriding objective in Lenin's economic strategy is economic independence, to be achieved by the elimination of economic and technical backwardness. It is equally important to emphasize that it does not imply autarky. Thus, a dominant economy whose demand and supply were so great as to determine world prices, and whose level of income and employment determined world levels, would be independent even though it took the preponderant part in world trade. At the other extreme, perfectly competitive economies none of which could, singly, influence the level of world prices and which were so small as to be unable, singly, to influence the level of income outside their own frontiers, would be independent of each other, though not of world demand and supply. Economies which were equal, that is which had equal price-making power on international markets, and an equal influence on the level of each other's income, would be equally independent of each other, though not of the world market. And an economy which could, if needs be, produce all essentials, would be independent in the sense that it could survive on its own.

It must be noted further that, in the conditions of the time, Lenin's objective was incompatible with autarky for many years to come : to industrialize and develop the Soviet Union to equality with the developed nations required foreign technology.

Nor do the functions of the foreign trade monopoly, as outlined by Lenin, imply autarky. Isolation from foreign capital does not spell self-sufficiency. And the direct control of trade means only that trade will not be controlled by price mechanism devices, not that it will be eliminated.

Thus Lenin's writings and his policy conclusions concerning foreign trade do not add up to a case for autarky. They express only the decision to achieve economic independence through economic development assisted, in the short-run, by the strict direct control of trade ensured by the foreign trade monopoly.

1928-1939

The industrialization which Lenin had advocated was carried out by Stalin. To achieve it he introduced the first five-year plan which, by means of central directives, was to force the Soviet Union into rapid industrialization in the face of all social opposition and which, improved upon, was to provide the instrument

of industrial development in East Europe after the second world war. He also introduced the form of foreign trade monopoly which was to provide the framework of trade control in East Europe until the reforms of the nineteen-sixties. This isolated domestic producers from any direct contact with foreign producers by concentrating trade in the hands of a few state agencies and interrupted the automatic connection between domestic and foreign prices by introducing equalization taxes and subsidies.

Industrialization, as in all but the first industrialization process, meant the substitution of domestic production for industrial imports. It was during this period therefore, that the argument between those who approved of this policy of independence and those who wanted less import substitution and were accused of encouraging dependence on the capitalist world broke out. It was also during this period that accusations of autarky were first levelled at the USSR. ^{20/} The supreme objective nevertheless remained Lenin's, that is catching up and overtaking the developed economies. ^{21/} That the Soviet Union was not intent on autarky, moreover, is indicated by the Soviets self-congratulation on learning that in England in late 1932 it was increasingly recognized that the USSR's industrial and technical development meant an important market for British industrial production. ^{22/} It is shown, further, by their acceptance of five-year commercial credits from Britain, Germany and Czechoslovakia in 1935 and 1936.

Thus, policy measures and pronouncements in the USSR during the nineteen-thirties were concerned with economic independence to be achieved ultimately by overtaking the developed countries and immediately by industrialization and import substitution. The monopoly of trade was organized so as to isolate the economy during the process of industrialization. The seizing of opportunities to trade given the objective of industrialization and the balance of payments constraint indicates that the USSR was not pursuing a policy of autarky.

1947-1954

After the war, the smaller East European countries adopted the Soviet model, and the same policy of economic independence through import substitution was pursued and debated. It acquired a new dimension, however. For while the substitution of domestic production for imports of essential goods from capitalists was stressed, it was acknowledged that purchases of essential goods could continue to be made from other socialist countries. "We will make ourselves very quickly independent from the arbitrary measures of the American imperialists ; the industry of the DDR will produce out of its own means the important products which we now import from the countries of the camp of peace. That does not mean a drawing back from inner-German trade ; quite the opposite, the government of the DDR is at all times ready to raise the foreseen volume of trade contacts. But we do not need or will allow ourselves dependence (on the West)". ^{23/}

Emphasis on domestic production was associated with a neglect of trade which was reflected both in the textbooks and in planning procedure. The first defined trade as a supplementary, rather than alternative, source of supply. ^{24/} The second typically determined production, then considered what imports were required given production and, finally, what could be exported to finance imports.

In the post-war period of Stalin's domination then, the objective of the East European countries was economic independence, especially from the West. Domestic production was given precedence over trade in both theory and practice. It was protected by the same institutions as those which protected Soviet industry during the nineteen-thirties. But none of this, it will be clear, amounts to the pursuit of autarky.

1954-1973

The conception of trade as a supplement, rather than an alternative to domestic production, continued to influence official thought and especially planning until the second half of the nineteen-sixties. But in May 1954, the Third Congress of the Hungarian Workers Party 25/ decided in favour of taking every opportunity to reap the advantages of the international division of labour and in October of the same year, Liska and Marias published their now famous article. In it they attacked the official 'autarkic' view of trade and quoted Ricardo on comparative costs against the theory that, because labour productivity in industrially under-developed Hungary was lower than in the countries which determined world prices, Hungary should restrict its exports to those in whose production its labour productivity was equal to, or higher than, that of the price-making countries. 26/

Throughout the second half of the nineteen-fifties attempts to calculate comparative advantage were made almost everywhere in East Europe as indicated in the previous appendix. In 1959, the international division of labour was included in the CMEA's charter as one of the Council's two objectives, the other being the industrialization of the less developed East European countries. In 1962, the CMEA published the Principles of the International Socialist Division of Labour. And in 1971, the need for, and benefits from, this were reasserted in the Council's Comprehensive Programme of Integration.

Meanwhile, beginning in 1963, a wave of major economic reform had broken over Eastern Europe. This led to an effective change in priorities which was reflected in the planning sequence. Instead of trade being subordinated to domestic production, trade opportunities began increasingly to determine the structure of production. And, while this was especially true in the smaller East European countries, Kosygin in his report on the 1966-1970 Soviet plan was to declare : "The industrial staff, , often regards foreign trade as something secondary." This completely wrong view must be changed radically and business-like contacts must be strengthened between industry and foreign trade. 27/

The change in priorities led to a change in planning procedure which now considered exports, then production and imports. It also prompted a multiplication of foreign trade enterprises, the liberalization of trade control and the reintroduction of the automatic link between domestic and foreign prices which had been broken by the Leninist/Stalinist form of trade monopoly.

The shift from an emphasis on domestic production to an emphasis on trade was not restricted to trade with socialist countries. Although the Western embargo, Stalin's doctrine of two parallel world markets, 28/ and then West European integration encouraged the East European nations to seek trading opportunities

among themselves, and even to establish a separate socialist world price system, ^{29/} trade with the capitalist countries was consciously promoted. The ultimate aim was still 'to bury' the advanced economies as Krutschev earthily put it. But economic development was now no longer a matter of basic industrialization but of technical advance and for this Western technology was required. At the end of the nineteen-fifties, Krutschev was thus also declaring that trade relations which were independent of economic and political system were not only possible but also a necessary condition for normal relations between countries ; and that "The USSR can, and is prepared to, develop economic relations and trade with all countries." ^{30/}

Throughout the sixties the forms of exchange between East and West multiplied. Industrial cooperation which allowed the East Europeans to tap the store of Western technology in return for payment in kind received increasing attention. After 1965, Eastern European countries joined GATT and the IMF. The most far-reaching changes took place in the early nineteen-seventies, however, when the USSR associated Western partners in long-term projects for the exploitation of its natural resources and two of the smaller East European countries, Hungary and Romania, introduced legislation to allow foreign capital participation in domestic enterprise to a maximum share of 49 per cent. The isolation from foreign capital which Lenin foresaw as one of the functions of the foreign trade monopoly was thus tempered and transformed into the control of foreign capital.

The period extending between 1954 and the present day has thus been characterized by a shift of emphasis from domestic production to trade. Catching up with and overtaking the advanced economies has remained the objective. But with basic industrialization completed, economic development has become a question of technical progress and this has meant importing the advanced technology of the West. With economic equality more nearly a fact, the insistence on independence has become less frequent. The foreign trade monopoly set up to isolate the infant economy from foreign capital has been modified to allow the controlled association of foreign capital. Brejnev in Bonn in May 1973 even went so far as to say that the aim of the USSR was not economic independence : there is of course no point in aiming at what has already been achieved.

IV. CONCLUSIONS

Defining a policy of autarky as the measures designed to eliminate trade now or in the future, we have considered four indicators of autarky for the socialist countries. These are the level of trade, the share of trade in national supply, the 'normal' as compared to the actual level of trade, and the level of trade with the West. We conclude that the series relating to the level of trade and to the share of trade in national supply suggest a possible policy of autarky for only one period and one country, namely the nineteen-thirties and the USSR ; that the computations relating to the 'normal' level of trade may be taken as an indication of a possible policy of autarky in all the East European countries, with the possible exception of Bulgaria, Romania and Hungary, throughout the post-war period ; that the statistics relating to the level of trade with the capitalist countries do not exclude the possibility that a policy of autarky was pursued by the socialist group with respect to the rest of the world during a brief period in the early nineteen-fifties.

Where the possibility of an autarkic policy's being pursued has been indicated statistically, we have sought confirmation that it was in policy measures and pronouncements. On the evidence considered, we reject the theory that the East Europeans have been intent on autarky. The overriding objective of economic policy in East Europe has been Lenin's, that is independence through economic development. In the backward state of the USSR in the nineteen-thirties, and of most of the East European countries after the war, this was translated into industrialization and import substitution and, given payments difficulties, more import substitution. But with basic industrialization out of the way, independence through economic development became a question of the improved allocation of resources and of technological innovation. Both led to an emphasis away from domestic production and in favour of trade and, in the case of innovation, of trade with the West. The foreign trade monopolies which had previously isolated the infant economies from the outside world were remodelled so as gradually to reintegrate the East European economies into the world market. The foreign trade policy of the East European countries is thus best described as protection for industrialization for the Soviet Union during the nineteen-thirties, and for all the East European countries until the mid-fifties ; and, after that, as trade for development.

However, if we reject autarky, how do we explain our statistical data ? The evidence for the USSR during the nineteen-thirties may be explained by industrialization and a payments' crisis. A country in the process of industrialization will begin to produce goods which it previously imported, and it will absorb previous exportables into domestic production, or domestic consumption, as rural population moves to new employment in the towns and ceases to produce its food. Moreover, as the economy undergoes transformation, it will begin to produce and export new products and it will become an exporter of goods which it previously imported. This, in fact, is the pattern displayed by Holzman's statistics of the share of trade in national supply in the Soviet Union during the nineteen-thirties. His attempt to foist autarky on to his figures merely results in his being unable to account either for the appearance of new exportables or for the conversion of importables into exportables. The sharp contraction of trade during the second five-year plan is also more plausibly explained by a balance of payments' crisis than by the pursuit of autarky, first, because there was a substantial payments' deficit in both 1931 and 1932 and, second, because there is no evidence that the increase in domestic production, which would have to bear the burden of the explanation to justify autarky, was sufficient to account for the reduction in imports to less than a quarter of their 1931 value.

The indications that the level of East European trade may be below what would be 'normal' for the economies in question is compatible with high protection, of which there is independent evidence in Appendix I, maintained to ensure development.

Finally, the evidence of a reduction in the level of trade of certain East European countries with the West in the early nineteen-fifties may be explained by the need for greater protection with respect to the economically advanced economies of the West than the economically backward economies of the East. But the evidence of a trade reduction with the West is so fragmentary that it is perhaps

presumptuous to attempt to explain it. It may just as well have been the result of the warlike situation existing between East and West during the period considered.

Our explanations of East European commercial policy are thus compatible with our statistics. In all three cases of suggested autarky, they offer at least as good, if not better, an account of the data than the autarky hypothesis. Moreover, they also explain the higher rate of increase in trade than production since the mid-nineteen-fifties. They suggest, finally, that instead of considering the East European countries as a separate class, they should only be considered as developing economies with special institutions.

TABLE I

USSR Foreign Trade, 1918-1946
(Millions of current roubles)*

	<u>Exports</u>	<u>Imports</u>
1918	8	105
1919	0	3
1920	1	29
1921	20	211
1922	82	270
1923	218	143
1924	337	260
1925	608	827
1926	725	689
1927	746	758
1928	803	953
1929	924	881
1930	1,036	1,059
1931	811	1,105
1932	575	704
1933	496	348
1934	418	232
1935	367	241
1936	1,359	1,353
1937	1,738	1,346
1938	1,353,	1,444
1939	612	986
1940	1,412	1,446
1942	399	2,756
1943	373	8,460
1945	3,444	3,650
1946	3,405	4,031

*except for 1918-1924 which are in constant 1913 prices.

Source : HOLZMAN, Franklyn D. : "Foreign Trade", Economic Trends in the Soviet Union, Cambridge, Mass., Harvard University Press, 1963, p. 288.

TABLE II
(Millions of current dollars*, f. o. b.)

USSR Exports, 1946-69					USSR Imports, 1946-69					
Year	Total CPE'S	MDC'S	LDC'S	Total non-CPE'S	Total Exports	Total CPE'S	MDC'S	LDC'S	Total non-CPE'S	Total Imports
1946	378.3/G	232.3	43.0	275.3	653.7	396.8/G	313.2	58.9	372.1	768.9
1947	482.1/G	267.1	21.6	288.7	770.8	439.1/G	243.0	62.7	305.7	744.8
1948	768.1/G	466.4	73.6	540.0	1308.1	754.4/G	288.0	181.6	469.6	1224.0
1949	1097.5/G	278.6	71.1	349.7	1447.2	1017.5/G	350.1	121.6	471.7	1489.1
1950	1500.2/G	262.1	32.3	294.4	1794.6	1136.2/G	227.0	92.7	319.7	1455.9
1951	1877.8/G	339.7	73.3	413.0	2290.8	1594.2/G	301.2	95.3	396.6	1990.8
1952	2330.1/G	385.2	74.6	459.8	2789.9	1961.3/G	430.9	113.9	544.8	2506.1
1953	2511.4/G	386.2	50.1	436.3	2947.7	2244.8/G	444.2	80.0	524.2	2769.0
1954	2651.5/G	473.7	97.9	571.5	3223.1	2439.3/G	586.2	156.2	742.4	3181.7
1955	2726.3/G	558.3	142.0	700.3	3426.6	2418.3/G	446.4	195.8	642.2	3060.5
1956	2732.9/G	614.3	267.8	882.1	3615.0	2735.8/G	600.3	276.6	876.9	3612.6
1957	3304.4/G	714.1	362.9	1077.0	4381.4	2825.5/G	698.2	414.0	1112.2	3937.7
1958	3136.2/G	702.4	460.6	1163.0	4299.2	3242.0/G	657.0	450.6	1107.5	4349.5
1959	4131.6/G	887.9	430.8	1318.7	5450.3	3797.0/G	788.2	488.0	1276.2	5073.2
1960	4211.4/G	1014.8	337.4	1352.2	5563.6	3978.3/G	1115.5	534.6	1650.1	5628.4
1961	4321.1/G	1093.4	583.9	1677.3	5998.4	4146.7/G	1117.3	563.5	1680.9	5827.6
1962	4905.2/G	1137.0	988.3	2125.3	7030.5	4565.5/G	1305.5	584.3	1889.9	6455.4
1963	5099.4/G	1261.1	911.9	2173.0	7272.4	4986.4/G	1423.7	648.7	2072.3	7038.7
1964	5406.8/G	1312.0	964.4	2276.4	7683.3	5346.4/G	1763.6	626.4	2390.1	7736.5
1965	5556.3/G	1495.7	1122.7	2618.3	8174.6	5609.8/G	1632.8	815.7	2448.4	8058.3
1966	5872.8/G	1756.4	1211.8	2968.2	8841.0	5263.8/G	1778.4	870.5	2649.0	7912.8
1967	6376.8/G	1934.1	1341.1	3275.2	9652.2	5945.5/G	1815.2	775.9	2591.1	8536.6
1968	7134.0/G	2096.8	1403.4	3500.2	10634.2	6367.0/G	2182.9	860.0	3042.9	9409.9
1969	7682.0/G	2284.3	1689.0	3973.3	11655.3	6696.0/G	2528.3	1102.3	3630.6	10326.7

* Converted from national devisa units through official exchange rates. Exchange rate used for conversion, 90 Roubles/\$
G Subtotal given officially

TABLE III

(millions of current dollars*, f. o. b.)

Bulgaria's Exports, 1950, 1952-69

Bulgaria's Imports, 1950, 1952-69

Year	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Exports	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Imports
1950	107.6	8.4	1.1	9.5	117.1	113.7	17.3	1.5	18.7	132.5
1952	151.9/Z	16.1/Y	2.8/Y	18.9/WZ	170.8/Z	139.7/Z	16.7/Y	1.9/Y	18.5/WZ	158.3/Z
1953	174.0/Z	26.5/Y	5.2/Y	31.7/WZ	205.7/Z	174.4/Z	23.0/Y	2.8/Y	25.8/WZ	200.2/Z
1954	201.2/Z	25.7/Y	5.6/Y	31.3/WZ	232.5/Z	171.6/Z	21.2/Y	2.9/Y	24.1/WZ	195.7/Z
1955	211.9	19.7	4.7	24.4	236.2	223.3	23.1	3.5	26.6	249.9
1956	262.4	30.4	9.2	39.7	302.1	206.0	36.8	8.3	45.1	251.1
1957	317.9	40.2/Y	12.0/Y	52.1/G	370.1	275.6	46.7/Y	9.9/Y	56.6/G	332.1
1958	322.4	39.3/Y	11.5/Y	50.8/G	373.2	312.6	45.0/Y	8.9/Y	53.9/G	366.5
1959	405.3	48.0/Y	13.8/Y	61.8/G	467.1	457.2	103.2/Y	19.1/Y	122.2/G	579.4
1960	480.1	71.4	20.0	91.4	571.5	530.8	86.8	15.0	101.8	632.6
1961	554.0	82.9/Y	25.6/Y	108.5/G	662.6	564.6	82.7/Y	18.6/Y	101.4/G	666.0
1962	636.9	101.4	34.3	135.6	772.6	650.2	104.8	29.7	134.5	784.7
1963	685.0	107.8	41.3	149.1	834.0	769.0	138.8	25.5	164.3	933.2
1964	780.8	147.9	51.0	198.9	979.7	803.5	211.4	47.5	258.9	1062.4
1965	933.8	186.2	55.7	242.0	1175.8	874.4	262.2	41.1	303.3	1177.7
1966	997.0	238.6	69.4	308.0	1305.0	1027.9	407.9	42.4	450.3	1478.3
1967	1135.1	239.9	83.2	323.1	1458.2	1164.7	345.2	62.0	407.2	1571.9
1968	1270.4	243.7	101.0	344.7	1615.1	1366.9	328.9	86.5	415.4	1782.3
1969	1422.6	263.8	107.9	371.7	1794.4	1393.9	259.7	95.7	355.5	1749.3

* Converted from national devisa units through official exchange rates. Exchange rate used for conversion 1.17 Leva/\$.

G Subtotal given officially
W Balancing estimate
Y Other estimate
Z Official unrevised

TABLE IV
(Millions of current dollars*, f. o. b.)

Czechoslovakia's Exports, 1949-69

Czechoslovakia's Imports, 1946-69

Year	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Exports	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Imports
1946	61.7			224.1/W	285.9	73.2			133.0/W	206.3
1947					571.4					578.8
1948	298.5	331.8	122.8	454.6	753.1	270.7/G	322.2	88.5	410.7/G	681.4
1949					806.3					718.1
1950	427.0	270.0	82.1	352.1	779.0	360.9	223.2	55.3	278.5	639.4
1951	521.2/G	239.0/Y	85.2/Y	324.2/G	845.3	551.8/G	265.2/Y	79.7/Y	344.9/G	896.7
1952	629.2/G	173.5/Y	71.5/Y	245.0/G	874.2	621.0/G	187.9/Y	67.1/Y	255.0/G	876.0
1953	776.0	147.5	70.0	217.5	993.6	693.4	131.0	54.9	185.8	879.2
1954	748.4	156.1/Y	100.9/Y	257.0/W	1005.4	701.4	147.2/Y	84.2/Y	231.4/W	932.9
1955	809.9	196.5	169.6	366.1	1176.1	754.6	169.2	128.9	298.1	1052.7
1956	899.8	252.9	234.6	487.5	1387.3	792.0	262.9	130.8	393.8	1185.8
1957	884.4	273.6	199.9	473.5	1357.9	972.0	287.2	127.6	414.9	1386.9
1958	1066.9	256.5	189.9	446.4	1513.3	957.4	264.3	135.6	399.9	1357.3
1959	1250.5	292.9	183.8	476.7	1727.2	1154.5	292.8	155.2	448.0	1602.5
1960	1394.7	321.7	213.2	534.9	1929.6	1294.0	344.1	177.7	521.7	1825.7
1961	1442.8	362.0	241.7	603.7	2046.4	1395.3	413.1	215.4	628.5	2023.8
1962	1630.8	334.3	228.5	562.8	2193.6	1532.6	363.8	173.8	537.5	2070.7
1963	1858.8	376.7	226.3	603.0	2461.7	1588.7	370.6	201.1	571.7	2160.5
1964	1901.7	424.8	249.5	674.2	2575.9	1763.2	468.6	197.4	666.0	2429.2
1965	1965.6	459.1	264.0	723.1	2688.7	1961.4	502.0	209.3	711.3	2672.7
1966	1928.3	511.0	305.9	816.9	2745.2	1923.3	582.4	230.4	812.8	2736.2
1967	2051.3	546.7	266.4	813.1	2864.4	1929.3	544.1	206.8	750.9	2680.2
1968	2131.0	577.5	297.0	874.5	3005.5	2219.2	654.6	203.5	858.1	3077.3
1969	2293.4/G	696.4	329.9	1026.3/G	3319.7	2373.7	713.7/G	207.1	920.8/G	3294.4

* Converted from national devisa units through official exchange rates. Exchange rate used for conversion 7.20 Koruna/\$

G Subtotal given officially
W Balancing estimate
Y Other estimate

TABLE V

(Millions of current dollars*, f.o.b.)

East Germany's Exports, 1946-69 East Germany's Imports, 1946-69

Year	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Exports	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Imports
1946	19.9	54.1	-	54.1	74.0	10.7	54.0	-	54.0	64.8
1947	14.3	224.8	-	224.8	239.1	20.5	137.9	-	137.9	158.4
1948	109.9	136.4	-	136.4	246.2	122.3	144.1	-	144.1	266.4
1949	213.5/G	115.8	.9	166.7	330.2	204.5/G	107.5	1.1	108.7	313.1
1950	276.9/G	126.4	2.7	129.1	406.0	356.4/G	112.7	.5	113.2	469.7
1951	562.4/G	144.4	5.9	150.3	712.7	443.7/G	155.4	8.5	163.9	607.6
1952	554.7/G	171.8	12.2	184.0	738.7	580.1/G	182.5	10.2	192.7	772.8
1953	762.8/G	196.4	8.3	204.7	967.5	749.9/G	227.1	5.6	232.6	982.5
1954	1004.1/G	260.6	21.5	282.1	1286.1	811.5/G	277.0	11.3	288.2	1099.7
1955	950.8/G	302.1	41.7	343.8	1294.6	833.5/G	315.0	30.6	345.6	1179.1
1956	1046.4/G	320.0	48.4	368.4	1414.8	965.9/G	327.9	44.3	372.2	1338.1
1957	1378.8/G	381.8	73.3	455.2	1833.9	1163.9/G	408.2	62.2	470.4	1634.3
1958	1470.8/G	366.2	77.6	443.9	1914.7	1206.1/G	415.9	81.1	497.0	1703.1
1959	1653.0/G	415.3	73.2	488.5	2141.5	1507.0/G	434.3	75.9	510.2	2017.2
1960	1672.1	445.1	90.2	535.3	2207.4	1620.5	482.9	91.1	574.0	2194.5
1961	1731.9	447.9	101.6	549.5	2281.5	1707.3	466.9	76.4	543.4	2250.7
1962	1870.2	417.7	90.1	507.7	2378.0	1909.1	415.0	83.4	498.3	2407.5
1963	2143.6	482.1	87.5	569.5	2713.1	1815.6	428.4	86.5	515.0	2330.6
1964	2275.3	549.3	107.0	656.3	2931.6	1975.7	552.8	105.1	658.0	2633.7
1965	2296.7	634.5	138.5	773.1	3069.8	2046.4	638.4	124.8	763.3	2809.7
1966	2386.0	649.5	169.5	819.0	3205.0	2306.8	780.4	127.9	908.3	3215.1
1967	2599.1	686.1	170.9	857.0	3456.1	2394.3	751.5	133.1	884.5	3278.9
1968	2903.6	725.1	162.6	887.6	3791.2	2558.1	703.9	130.9	834.8	3392.9
1969	3033.8	930.5	188.9	1119.4	4153.2	2975.9	974.8	153.9	1128.8	4104.6

* Converted from national devisa units through official exchange rates. Exchange rate used for conversion 4.20 Marks/\$

G Subtotal given officially

TABLE VI
(Millions of current dollars*, f. o. b.)

Hungary's Exports, 1946-69

Hungary's Imports, 1946-69

Year	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Exports	Total CPE'S	MDC'S	LDC'S	Total Non-CPE'S	Total Imports
1946	25.0			10.6/W	35.5	21.9			9.6/W	31.5
1947	40.2			48.5/W	88.7	48.6			75.2/W	123.8
1948	87.4			77.2/W	164.6	87.7			80.5/W	168.3
1949	145.5	124.8	10.3	135.0/G	280.5	133.1	144.6/W	10.5	155.0/G	288.1
1950	216.7	97.2	14.6	111.8/G	328.5	178.8	122.2/W	14.7	136.9/G	315.7
1951	271.7	103.8	20.2	124.1/G	395.7	259.6	107.0/W	27.4	134.4/G	394.0
1952	324.3	92.7	21.1	113.8/G	438.1	331.2	112.3/W	16.0	128.3/G	459.5
1953	394.4	81.5	22.3	103.8/G	498.2	355.5	117.5/W	14.3	131.9/G	487.4
1954	385.6	103.9	29.8	133.7/G	519.2	360.3	148.1/W	23.2	171.3/G	531.6
1955	404.0	152.3	44.7	197.0/G	601.0	302.4	212.7/W	39.2	251.9/G	554.2
1956	307.0	144.4	35.6	179.9/G	486.9	298.4	158.0/W	24.8	182.8/G	481.2
1957	330.1	123.2	34.6	157.8/G	487.9	497.0	166.7/W	18.7	185.4/G	682.4
1958	491.5	155.5	36.6	192.1/G	683.5	450.5	151.2/W	29.3	180.4/G	630.9
1959	540.5	183.2	45.9	229.1/G	769.6	569.8	191.7/W	31.4	223.1/G	792.9
1960	624.6	199.2/W	50.2	249.4/G	873.9	687.3	251.7/W	36.7	288.4/G	975.8
1961	767.0	204.8/W	57.2	262.0/G	1028.9	712.5	272.3/W	40.7	313.0/G	1025.5
1962	810.5	214.3/W	74.5	288.8/G	1099.3	820.6	260.4/W	67.7	328.1/G	1148.7
1963	849.1	274.9/W	81.8	356.7/G	1205.8	900.2	318.8/W	86.5	405.3/G	1305.5
1964	962.6	303.2/W	86.0	389.2/G	1351.8	995.9	402.4/W	96.2	498.6/G	1494.6
1965	1057.8	342.6/W	109.1	451.7/G	1509.5	1018.2	406.7/W	95.4	502.1/G	1520.3
1966	1088.9	409.0/W	95.4	504.4/G	1593.3	1015.7	436.0/W	113.8	549.8/G	1565.5
1967	1166.8	425.5/W	108.9	534.3/G	1701.1	1183.1	487.0/W	105.2	592.2/G	1775.3
1968	1285.6	415.1/W	88.4	503.5/G	1789.1	1234.7	462.6/W	105.3	567.9/G	1802.6
1969	1417.6	542.7/W	123.3	666.1/G	2083.7	1305.9	526.3/W	95.6	621.8/G	1927.7

* Converted from national devisa units through official exchange rates. Exchange rate used for conversion 11.74 Forint/\$

G Subtotal given officially
W Balancing estimate

TABLE VII

(Millions of current dollars*, f. o. b.)

Poland's Exports, 1946-69

Poland's Imports, 1946-69

Year	Total			Total Exports	Total			Total Imports		
	CPE'S	MDC'S	LDC'S		Non-CPE'S	CPE'S	MDC'S		LDC'S	Non-CPE'S
1946	75.7/G	46.8/Y	4.0/Y	50.8/G	126.6	114.1	29.1/Y	2.6/Y	31.7/G	145.8
1947	109.1/G	126.3/Y	10.9/Y	137.2/G	246.2	110.6	192.6/Y	17.0/Y	209.6/G	320.1
1948	234.9/G	273.0/Y	23.4/Y	296.4/G	531.3	245.4/G	249.0/Y	22.0/Y	271.0/G	516.4
1949	280.7	311.4/Y	26.7/Y	338.1/G	618.8	269.4	333.6/Y	29.4/Y	363.0/G	632.5
1950	360.8	251.9	21.5	273.4	634.2	408.3	238.8	21.1	259.8	668.2
1951	434.3	294.9/Y	32.5/Y	327.3/G	761.7	535.2	344.8/Y	44.2/Y	389.0/G	924.2
1952	505.3	237.9/Y	32.2/Y	270.1/G	775.4	582.6	239.4/Y	41.0/Y	280.4/G	863.0
1953	568.8	225.5/Y	36.6/Y	262.1/G	831.0	555.9	179.3/Y	39.0/Y	218.4/G	774.2
1954	601.7	224.4/Y	42.7/Y	267.1/G	868.8	641.3	206.7/Y	55.4/Y	262.2/G	903.5
1955	578.4	280.0	61.4	341.3	919.7	604.9	247.1	79.7	326.9	931.8
1956	580.2	342.4	62.2	404.6	984.7	677.4	298.5	46.0	344.4	1021.8
1957	577.9	338.1	58.9	397.0	975.0	778.0	408.6	64.9	473.5	1251.5
1958	620.4	340.2	98.7	439.0	1059.4	714.3	445.9	66.6	512.5	1226.8
1959	681.9	379.9	83.3	463.2	1145.1	923.0	414.2	82.3	496.6	1419.6
1960	830.2	395.5	99.8	495.3	1325.5	949.5	443.8	101.7	545.5	1495.0
1961	939.1	451.5	113.0	564.5	1503.6	1054.2	544.3	88.2	632.5	1686.7
1962	1034.3	489.7	122.2	611.8	1646.1	1246.2	529.4	109.8	639.2	1885.4
1963	1123.1	512.2	134.8	647.0	1770.0	1326.0	527.8	125.2	653.0	1979.0
1964	1350.6	577.2	168.6	745.8	2096.4	1306.1	605.8	160.3	766.1	2072.2
1965	1408.7	639.3	179.9	819.2	2227.9	1547.5	573.8	219.0	792.8	2340.3
1966	1400.1	692.8	179.2	872.0	2272.1	1603.9	709.2	181.0	890.2	2494.1
1967	1611.2	724.9	190.4	915.3	2526.6	1736.9	756.6	151.3	907.9	2644.8
1968	1878.5	781.3	198.0	979.3	2857.8	1838.0	825.3	189.9	1015.1	2853.1
1969	2064.0	841.0	236.5	1077.5	3141.5	2113.5	892.0	204.2	1096.2	3209.7

* Converted from national devisa units through official exchange rates. Exchange rate used for conversion 4.00 Zloty/\$

G Subtotal given officially
Y Other estimate

NOTES

- 1/ See, for instance, HOLZMAN, Franklyn D. : "Foreign Trade", Economic Trends in the Soviet Union, Abram Bergson and Simon Kuznets (Eds.), Cambridge, Mass., Harvard University Press, 1963 (hereafter "Foreign Trade") ; pp. 283-332 ;

PRYOR, Frederic L. : The Communist Foreign Trade System, London, George Allen and Unwin, 1963 (hereafter Communist Foreign Trade) ; pp. 23-32 ;

KASER, Michael : Comecon : Intergration Problems of the Planned Economy, Second Edition, London, Oxford University Press, 1967 ;

TROTSKY, Léon : Ecrits 1928-40. Tome I, Paris, Librairie Marcel Rivière et Cie, 1955 ; p. 118.
- 2/ See LISKA T. and MARIAS A. : "Optimum Returns and International Division of Labour", Extracts, Economic Survey of Europe in 1954, (hereafter "Optimum Returns") ; pp. 131-135 ;

WILES, Peter J.D. : Communist International Economics, Oxford, Basil Blackwell, 1968 (hereafter Communist International Economics) ; chapter XV ; and International Trade and Central Planning, Alan A. Brown and Egon Neuberger (Eds.), Berkeley and Los Angeles, University of California Press, 1968 ; pp. 8-13.
- 3/ BROWN, Alan A. : "Towards a Theory of Centrally Planned Foreign Trade", International Trade and Central Planning, p. 58.
- 4/ Wiles defines autarky as "unwillingness to enter into foreign trade, or as the difference between the existing volume of trade turnover and the one that there would have been, ceteris paribus, under perfect competition." The second meaning is a definition of protection. Communist International Economics, p. 58.
- 5/ BAYKOV, Alexander : Soviet Foreign Trade. Princeton, Princeton University Press, 1946 ; p. 60.
- 6/ HOLZMAN, Franklyn D. : "Foreign Trade" ; p. 300.
- 7/ Economic Bulletin for Europe, Vol. 21, no. 1, p. 44. The table compares the growth in the volume of net material product (NMP) and in the value of imports and exports in current dollars. There are four possible sources of error in this comparison. First, NMP excludes 'non-productive' services. To the extent that these services grew at a rate which differed from the growth of NMP, the growth rate of NMP would not constitute an accurate measure of the growth of production in the East European countries. Second, given adherence to the labour theory of value until the mid-sixties at least, NMP values labour only. To the extent that growth took place at a different rate from NMP in sectors which made relatively much use of other factors, NMP growth would inaccurately reflect production growth in the East European countries. Third, owing to overvaluation, the

traded goods included in NMP are overvalued. To the extent that the growth rate of traded production was different from that of NMP, this would mean that the growth rate of NMP was an inaccurate indicator of the growth of production. Fourth, the growth in the trade figures would be due in part to variations in prices and not only in the volume of trade.

8/ International Trade 1968, 1969, 1970 and 1971, Geneva, GATT, annual.

9/ Information on the Activities of the Council for Mutual Economic Assistance in 1972. Moscow, CMEA, 1973, p. 44.

10/ PRYOR, Frederic L. : Communist Foreign Trade, p. 39.

11/ A recent study for the period 1955 to 1967 nevertheless breaks imports and exports down into four classes and compares the rate of growth of each class to the rate of growth of NMP. It shows that except for the USSR which had one import class (input goods) and two export classes (food and other manufactured goods) rising less fast than NMP, and Romania which had two import classes (input goods and food) and one export class (machinery) rising less fast than NMP, the other countries had but one class in both imports and exports (Czechoslovakia for food) rising less fast than NMP, or one class of imports (Eastern Germany for food) or one export class (Poland for input goods) rising less fast than NMP. Bulgaria was the only country to have all classes of both imports and exports rising more than NMP. Economic Bulletin for Europe, Vol. 21, No. 1, p. 61.

12/ PRYOR, Frederic L. : Communist Foreign Trade, p. 27.

13/ "Trade Dependence in European Countries", Economic Bulletin for Europe, Vol. 21, No. 1, pp. 43-65.

14/ Ibid., p. 51.

15/ Pryor actually concludes from his data that economic development in the CMEA countries was autarkic through the late nineteen-fifties. But this conclusion is completely unjustified on the basis of calculations for one year alone, quite apart from the approximations involved in computing "normal" levels of trade.

16/ Other statistical indicators of autarky have been proposed. One which is often referred to is the structure of trade. An "autarkic" country, according to this view, would be one which was self-sufficient in essentials, and traded only inessentials. Note that this softens the notion of autarky, for an autarkic country, on this definition, would continue to trade even though it had achieved 'autarky'. Moreover, it is a difficult proposition to test. For in terms of what are essentials and inessentials to be defined ? Would an inessential good be one which had a high price-elasticity of demand, and also a high income elasticity of demand ? Further, it is not a sufficient criterion for autarky. It would have to be completed, it would seem, either by statistics relating to the level of trade or to the share of trade in domestic supply. For all these reasons we have left this test of autarky to one side.

- 17/ LENINE, Vladimir : "La catastrophe imminente et les moyens de la conjurer". Oeuvres, Moscou, Editions en langues étrangères. Tome 25.
- 18/ LENINE, Vladimir : "Les tâches immédiates du pouvoir des soviets." Oeuvres, Tome 27, février-juillet 1918, p. 261.
- 19/ LENINE, Vladimir : "Le Monopole du Commerce Extérieur. Au camarade Staline pour la réunion plénière du C.C." Oeuvres, Tome 33, août 1921-mars 1923, pp. 468-472, in which Lenin rejects tariffs as an instrument of trade control.
- 20/ TROTSKY, Léon : Ecrits 1928-1940, Tome 1. Paris, Librairie Marcel Rivière et Cie. 1955, (hereafter Ecrits), p. 118.
- 21/ Molotov, 1939, cited by DOBB, Maurice : Soviet Economic Development since 1917. London, Routledge and Kegan Paul, 1948, 289.
- 22/ Cited by TROTSKY, Ecrits, p. 118.
- 23/ Otto Grotewohl quoted in PRYOR, Frederic L. : Communist Foreign Trade, p. 24.
- 24/ Politische Ökonomie Lehrbuch, Akademie der Wissenschaften der UdSSR. 1. Auflage. Berlin, Dietz Verlag, 1955 , p. 584.
- 25/ LISKA T. and MARIAS A. : "Optimum Returns", Extracts, p. 131.
- 26/ Ibid., pp. 132/133.
- 27/ Kosygin in his report on the 1966-1970 plan, cited in Economic Bulletin for Europe, Vol. 20, No. 1, p. 44.
- 28/ STALIN, Iosif Vissarionovic : Les problèmes économiques du socialisme en URSS. Moscou, Editions en langues étrangères, 1952 , p. 34.
- 29/ This effort was abandoned towards the end of the nineteen-sixties.
- 30/ Quoted in Politische Ökonomie Lehrbuch. Akademie der Wissenschaften der UdSSR. 5. Auflage. Berlin, Dietz Verlag, 1964 , p. 652.

CHAPTER TWO

ECONOMIC REFORM

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CHAPTER TWO

ECONOMIC REFORM

I.

PRINCIPLES

The Options : Waste Reduction or Efficiency

To reduce the inefficiency which characterized them and of which their leaders were increasingly aware, the Eastern European countries had two alternatives. They could either take steps to avoid obvious waste ^{1/} or to create the conditions of economic efficiency. The first required an increase in planning coherence, a reduction in administrative costs, an improvement in enterprise management and other similar measures. The essential requirement for the second, namely the creation of the conditions for the maximization of production and welfare, was a change in the valuation of resources, that is a price reform. The East European authorities have opted for both this and the other measures listed. They have thus clearly expressed their choice in favour of efficient economic systems.

We have used, and shall be using, efficiency to mean the maximization of production and welfare subject to given resources, technology and tastes. As this may be objected to on the grounds that a concept such as 'dynamic efficiency' would be more appropriate in growth-conscious Eastern Europe, we briefly justify our position.

Growth, if we abstract from foreign influence as we shall be doing, depends upon the size of the national product at any point in time, upon the level of investment out of this product, and upon the relationship between investment and an increment of national product. Given the size of the national product and the relationship between investment and an increment of national product, it therefore depends upon the macroeconomic strategy which elicits the investment required for a certain rate of growth. But, in turn, the size of the national product, hence the potential level of investment at any given moment, and the relation between investment and a change in national product depend upon the efficiency, in the static sense, with which the economic system allocates resources : the more efficient the system, the greater the size of the national product, the greater the potential level of investment, and the greater the increase in national product due to a given injection of investment.

A system capable of static efficiency is thus a necessary condition for the maximization of growth, and therefore for 'dynamic efficiency'. It is moreover, the condition with which the reforms are concerned. For, as we shall see, they deal not with the macroeconomic policies required to elicit the in-

vestment necessary to sustain a certain rate of growth but, instead, with 'systems of management' or, more familiarly, microeconomics : their object is to establish systems capable of achieving static efficiency and, hence, of reflecting the strong community preference for technical progress and for future over present consumption. Our choice of definition is therefore vindicated.

A Classification of Efficient Systems

To achieve efficiency, the Eastern European countries could choose any one of a number of systems. It is well to stress this for in many Western minds there lurks the notion that only the market is efficient. Our first task in examining the East European reforms will, then, be to identify the systems which they are attempting to establish, and to relate them to the classification we present below.

We distinguish five 'pure', and a number of hybrid, systems. ^{2/} All five pure systems and some of the hybrids were discussed in principle if not in detail before 1940. The first two are developed from the suggestion, rejected by Pareto ^{3/} but adopted at least temporarily by certain socialists, ^{4/} that the prices of goods and factors should be calculated. The third and fourth, which involve central price adjustment are suggested by the analyses of Barone ^{5/} and Lange ^{6/} in his socialist phase. A solution containing some price adjustment is also outlined by Dickinson. ^{7/} Finally, the fifth pure model, that is the free market, was thoroughly explored by economists outside the Marxist tradition at the end of the nineteenth, and the beginning of the twentieth, centuries.

This is not to suggest that schemes which are related to one or other of the systems cited are being adopted in the Communist countries because of the esteem in which their authors are held. In Czechoslovakia, indeed, it seems that the top-ranking officials responsible for the adoption and execution of the reform had no knowledge of the previous literature on economic organization. Rather, any resemblance that may occur emphasizes the fact that the search for a system of rational resource allocation must always lead to the same solutions. Or, with apologies to Gertrude Stein, that rational resource allocation is rational resource allocation, . . . , whether the ownership of resources is capitalist or socialist. The list of names given in the previous paragraph should, therefore, be read not as a record of influences but as a list of credits.

The systems can be classified according to the methods of economic valuation, or price determination, and of resource distribution, or allocation, which characterizes them. Price determination can take three forms which are the central calculation of product and factor prices, or 'central computation' ; the adjustment of prices by the central authority in response to supply and demand, or 'central adjustment' ; and pricing by the free market, which is referred to as 'competition'. ^{8/} Allocation in turn can take two forms. The first is the distribution of products and factors by the central authorities, or direct allocation.

The combination of one of the preceding methods of price determination with one of the methods of allocation defines our five pure systems as may be seen from the following table :

Systems of Resource Allocation *		
<u>Method of Price Determination</u>	<u>Method of Allocation</u>	<u>Pure System</u>
Central Computation	Direct Allocation	1. Centrally Computed Direct Allocation
	Indirect Allocation	2. Centrally Computed Indirect Allocation
Central Adjustment	Direct Allocation	3. Centrally Adjusted Direct Allocation
	Indirect Allocation	4. Centrally Adjusted Indirect Allocation
Competition	Indirect Allocation	5. Free Market

* Hybrid systems will result from the combination of any two pure systems

Thus central computation combined with direct allocation constitutes 'centrally computed direct allocation.' Combined with indirect allocation it constitutes 'centrally computed indirect allocation' in which the center calculates prices while consumers and producers distribute factors and products by transacting on the basis of these prices. Central adjustment combined with direct allocation produces 'centrally adjusted direct allocation', and with indirect allocation, 'centrally adjusted indirect allocation' in which the center simply adjusts prices, and consumers and producers again distribute factors and products by transacting on the basis of these prices. The remaining form of price determination, competition, is, however, the product of indirect allocation and cannot, therefore, be associated with any other form of allocation. Hence, it characterizes only one pure system which we shall refer to as the 'free market.'

The first four pure systems are all types of 'central allocation', that is of system in which the center is responsible for prices, or for both prices and resource distribution. But they are not the only types. For central allocation also includes hybrid systems, that is systems which, in contrast to the pure models, combine more than one method of price determination and of allocation. To be hybrid forms of central allocation they must, however, combine more than one method of central price determination and one method of allocation.

The absence of a central authority to determine the allocation of resources distinguishes the free market from the preceding schemes. But it may be mixed with forms of central allocation in which case we obtain a hybrid system which, however, will not be a hybrid form of 'free market.' For in all systems of this kind the market mechanism is constrained by central allocation in certain sectors of the economy and can, therefore, no longer be referred to as free. If the 'free' market is an important component of the hybrid, we shall nevertheless refer to

the system as a market, or a regulated market, system. But, if the hybrid is heavily weighted in favour of central allocation, we shall simply speak of a cross between this and the free market.

Socialist Efficiency

All the systems defined above are in theory at the disposal of a country wishing to change its economic organization. But in fact its choice is narrower. It can indeed be shown that the choice of any country, but especially that of a socialist state, is restricted to the hybrid systems.

To start with, the central computation of all product and factor prices is at present thought to be impracticable. The collection and analysis of the mass of relevant statistical data is virtually impossible despite the use of computers and linear programming. This is so even if we assume the static economy postulated by Walras and others whose analysis of general equilibrium seems to have inspired the socialist advocates of price calculation.^{9/} It is even more certainly so if more realistically we postulate a growing economy in which the parameters of the demand and supply functions change continuously.

Central adjustment, on the other hand, while originally suggested to eschew the practical difficulties of computation, does not eliminate the difficulty of the center's having to adjust every single price. Further, as Hayek has pointed out, it is not clear why, even if feasible, it should resolve the difficulties attached to computation. For if the latter cannot determine a given solution, why should this more easily be attained by what amounts to a process of hit and miss? ^{10/} It seems, therefore, that we must eliminate systems of pure central allocation as practical alternatives.

Competition in turn, which, as we have seen, implies indirect allocation can for efficiency purposes be a solution for a capitalist society. But for the socialist state it is equivalent to heresy. For competition does not ensure a socially equitable distribution of income. Moreover, it permits individuals to determine the structure and future evolution of the economy, two developments which are incompatible with the collective ownership and stewardship of resources. It further threatens to plunge the socialist economy into the 'chaos of the market' from which the central allocation of resources was supposed to rescue it. Finally, it may lapse into inefficiency, give free rein to monopoly and monopsony, and thus to the exploitation of man by man.

Thus the pure systems are unlikely solutions for any economy in search of efficiency. But for the socialist state, they seem to be out of the question. In classifying the East European systems we shall, therefore, examine the prediction that, for both practical and ideological reasons, a socialist economy must at present combine a number of pricing methods and thus adopt a hybrid system.

Efficiency and the Cost of Allocation

Formal efficiency will be achieved in different circumstances under the various systems depending on whether they constitute forms of central or of market allocation. It may be shown that it will be achieved under more general conditions under central allocation than in the free market. ^{11/} The differences in the two types of system which lead to this conclusion are given below.

In the free market where there is no government intervention, firms must earn a profit. It follows that, as a necessary condition for efficiency in production is that price equal marginal cost, cost must be increasing. Under central allocation, on the other hand, this efficiency condition can be met not only under increasing, but also under constant or decreasing cost. ^{11/} This is so both under direct and, as the state can subsidize firms suffering losses, under indirect allocation. To enjoy this privilege under indirect allocation, however, the central authorities must require firms to equate price to marginal cost, that is to apply marginal cost pricing or Lerner's Rule. ^{12/}

But the efficiency of production requires more than the equation of price to marginal cost : it requires the equation of price to marginal social cost. Similarly, the efficiency of consumption requires the equation of price to marginal social value. The fulfilment of these two conditions, in turn demands an absence of monopoly, monopsony, and externalities.

In a free market this cannot be guaranteed. For the market may be imperfect in which case certain producers and consumers will have monopoly or monopsony power. And producers and consumers by definition consider only their private costs and benefits so that externalities cannot be excluded. Under central allocation, by contrast, monopoly can be eliminated by obliging producers to adhere to Lerner's Rule. Under central direct allocation, moreover, the economy constitutes a single giant firm producing for a single giant consumer, and this eliminates external effects. And where allocation is indirect, the authorities are in a position to set prices to as to eliminate the effects of external economies and diseconomies. ^{11/}

It follows that formal efficiency is more likely to be attained in a centrally allocated system than in a free market. It is therefore tempting to formulate a second prediction, namely that the new East European systems are likely to be heavily weighted in favour of central allocation.

But this would be to overlook the specific cost of central allocation. Though hotly, and monotonously, contested by those who point to imperfect competition, advertising and government monopoly commissions as some of the costs of the free market, and who believe that by so doing they lay this particular ghost, its presence nevertheless persists. It may be perceived by imagining two economies which are identical in every way, which could achieve identical resource allocation by resorting to the free market, and one of which decides on a system of central allocation. In the first economy, prices and, hence an efficient solution are determined by the production and consumption decisions of the individual producers and consumers. In the second an efficient solution which, we shall see, must be different from that obtained in the first country, is achieved after the identical producers and consumers have referred back to, and obtained information from, a central board whose task it is to compute, adjust and communicate prices under central indirect allocation and, moreover, to distribute resources directly under central direct allocation. In other words, under central allocation, resources will be tied up in the business of allocating resources from the center which in a free market would be available for production. This is the cost of central allocation, and it is apparent as soon as one compares two economies, as one should do for this purpose, with different systems of allocation but ceteris paribus.

The cost of centralization implies, first, that efficient central allocation must always be inefficient as compared to efficient free market allocation. 11/ This explains our earlier reference to 'formal' efficiency. For although the formal conditions of efficiency may be met under central allocation, production can always be increased by shifting resources out of the administrative sector. Effective efficiency, therefore, is not attained, and by the standards of the efficient free market, central allocation is wasteful.

Second, efficient central allocation is not necessarily superior to an imperfect market. It will be so only if the increase in efficiency which it allows outweighs the cost of the central administration of resources. Third, if central allocation is not efficient but as imperfect as the free market, then a given economy should choose the free market and avoid the additional cost of central allocation. 11/

The free market is, therefore, unambiguously superior to central allocation in two cases out of three, whereas central allocation never has this advantage over the free market. This establishes a strong case in favour of the free market for efficiency purposes, but also blurs the clean conclusion we had reached by considering only the conditions under which efficiency can be achieved in each type of system. We find, therefore, that we can no longer predict that the new Eastern European systems will be central allocation essentially, nor since the socialist countries of Eastern Europe cannot adopt free market allocation, that they will introduce this in well-determined cases. All that we can say when taking both the conditions of efficiency and the cost of allocation into account, is that given the 'cheapness' of the market in many situations, the reform projects are likely to contain more market sectors than would have been the case had there been no cost to central allocation.

The Size of the Cost of Allocation

But the influence of the cost of central allocation on a country's choice of economic system depends upon the size of this cost. And this, in turn, depends upon a number of factors, one of which is the method of price determination used in a given type of central allocation, and a second the method of allocation resorted to. It may be shown that, for any given result, computation will be more expensive than central adjustment, and direct than indirect allocation. It follows that centrally computed direct allocation will be the most expensive form of central allocation, that centrally computed market allocation will be more expensive than centrally adjusted market allocation, and that centrally adjusted direct allocation will be more expensive than centrally adjusted indirect allocation. But whether centrally computed market allocation will, or will not be, cheaper than centrally adjusted direct allocation cannot be stated a priori. 11/

A third factor which influences the size of the cost of central allocation is the level of sophistication of the economy, that is the number of product and factor markets which the central authority has to control, and the number of processes of transformation which it has to take into account. The greater the number of factors, products and methods of transformation the greater the number of variables the center has to work with and hence the greater the cost of central allocation. 13/

This relation implies, fourth, that the cost of centralization also tends to depend on foreign trade. For trade tends to increase the number of inputs and outputs and the number of processes of transformation in an economy. Moreover, even if trade leads to such specialization that this is not the case, the central authorities will, nevertheless, either have to include foreign demand and supply into the variables they work with if the country has monopoly-monopsony power on international markets, or have at least to adjust to world prices which they cannot control if it does not. In other words, trade also increases the number of variables that the center has to consider or tends to increase the frequency of their variation. It therefore always tends to increase the cost of central allocation. 14/

A Tentative Theory of the Evolution of Economic Systems

We see, therefore, that a consideration of the factors which determine the size of the cost of central allocation yields a number of propositions which can be combined to constitute the outline of a theory of the evolution of economic systems in general, and of those of Eastern Europe in particular. Assuming, as we have been doing throughout this section, that communities wish to organize for efficiency or, more realistically perhaps, that they simply want to cut the cost of allocation, then the preceding relations suggest that other things being equal.

1. countries will tend to replace the more expensive forms of allocation by cheaper forms, and thus to move from central direct allocation towards at least the regulated market ;
2. this trend will be the stronger, the more sophisticated the economy ; and
3. it will be the stronger, the greater the country's trade dependence.

It is true that, in practice, communities will never organize solely for efficiency, but also to maintain internal and external equilibrium, to ensure an equitable distribution of income, to sustain a certain rate of growth. Within these constraints, however, the above trends should normally be apparent. It is only in the event of grave political or economic crisis which, like war, slump, or political or economic revolution, threatens the life of the community that they are likely to disappear. For then the economy of the country will be trained on the single target of survival regardless of cost, and the optimal allocation of resources will be forgotten in a war economy of the Lange sui generis or other variety. Between convulsions, however, the need for efficiency should reassert itself and our propositions find confirmation.

We now turn to examine the pattern of reform in Eastern Europe.

II.

PRACTICEThe Reforms : General

The economic reforms in this area have a number of important common characteristics. There has been, first, a shift of emphasis from short to medium and long-term planning ; second, a devolution of planning and management to associations of enterprises and to the enterprises themselves ; third, and associated with this, the increasing use of 'economic levers' instead of central directives ; and fourth, price reforms.

Given these common characteristics and in contrast to the Stalinist model, which was imposed everywhere in an attempt to fashion Eastern Europe in the USSR's own image, two archetypes of reform can be discerned. There is the Soviet reform, around which can be grouped the Polish, East German and Romanian programmes, and which consists in improving the methods of central planning. And there is the Czech-Hungarian model which reduces the role of planning to the provision of an economic framework, proposes a virtually complete decentralization of management, and thereby a return to a regulated market system. The Bulgarian programme, with certain reservations, can also be said to belong to this school.

In analysing the two families of reform we shall, for the moment, exclude measures undertaken in the foreign trade sector. Moreover, since the distinction between the two models necessarily resides in the responsibility for price determination and in the independence of the individual enterprise, we shall, with the incomplete information at our disposal, emphasize this part of our analysis. In what follows the term planning will be used in the Western sense to mean the definition of goals and the selection of strategies for their attainment, and the term management for what constitutes the burden of 'planning' in the Eastern sense, that is the running of the economy. The expressions target and mandatory target will be used as synonyms for commands relating to absolute values or quantities. The term indicator will be reserved for the normative indicators which express relationships between two or more indices and which have gained importance with the reforms. 'Directive' will be used to indicate either type of instruction.

The Conservatives : The USSRInstitutions

The Soviet reform, the principles of which were adopted in October 1965, can be divided into four parts. First, there have been administrative changes. In 1965, industrial ministries replaced the regional ministries which Khrushchev had introduced in 1957 and, in 1968, their powers were increased. The industrial ministries elaborate plans for the commodities which are removed from Gosplan control and are responsible for assessing the demand for products whose output is chiefly their responsibility. At the same time, to check their importance the role of regional planning is being emphasized. Immediately below the ministries, associations of enterprises are being formed. In line with the reform of manage-

ment procedures, which we turn to below, elements of financial accountability are gradually being introduced into both these and the ministries. This should facilitate their transformation into independent economic organizations controlling the performance of certain branches by means of policy instruments rather than directives.

Planning

Second, the methods of central planning are being improved. Input-output tables are now being used for plan-drafting, rather than, as in the early 1960's for historical purposes or to test plans drawn up according to the rough method of balances. Alternative projections of the 1971-1975 plan have been elaborated with different growth rates and structures, demographic calculations have been made, and optional branch plans providing for a reduction of unit factor inputs have been worked out. At the same time, central targets have been reduced thus making way for the changes in management to which we refer below.

Prices

Third, on July 1, 1967, the wholesale price reform was introduced. The aim of the reform was to obtain a price structure which reflected relative values more realistically, so that, amongst other changes, ^{15/} the new prices include the newly introduced capital charge. This concern with economic accounting and the decision, prompted by the new system of enterprise management, to ensure profitability in all lines of production, has put an end to the previous subsidies in the heavy industries. As a result prices in this sector were raised by 15 per cent as compared to an 8 per cent average for industry as a whole. ^{16/}

Discussions are now taking place concerning the adjustment of prices over time. There seems to be general agreement on the fact that selective alterations in response to changes in market conditions are preferable to general price revisions. An exception to this general rule, however, are prices such as those for basic raw materials, fuels and electric power which are to be the same over long periods. The prices of manufactures are to be more frequently adjusted. A sliding scale is thus to be introduced for whole sale prices which is gradually to eliminate the production of obsolete goods while stimulating the production of new, improved articles. Since the different treatment applied to the prices of 'basic' products and to those of industrial goods has no economic justification, it is to be attributed most probably to political or ideological motives.

On the institutional side, the responsibility for adjusting prices is, formally, to be divided. Essential products are to continue to be priced centrally. Other prices are to be 'decentralized' that is set by ministries or enterprises on the basis of cost and profitability norms introduced to avoid unwarranted price increases. Thus pricing is to be decentralized only as compared to the previous highly centralized state of affairs. Central price fixing and the determination of norms will continue to leave control firmly with the center. This is further underlined by the decision to introduce planned price changes into the Five-Year Plans which will not only reflect, but also influence, anticipated changes in costs.

Management

Finally, a new system of management has been introduced. With associations not yet established, this, in contrast to some of the other countries, has been designed so far to influence the enterprise. It comprises measures to improve the productivity of labour and of managerial staff, on the one hand, and to improve the allocation of investment on the other. The first include the establishment of a fund for social and cultural purposes and of a material incentive fund devoted to the payment of bonuses. These are determined by the enterprise, financed out of profit, but related to a number of indicators notably sales, profits, profitability, wages and assets. The resulting complications have prompted a revision of the present scheme with a view to finding a single criterion of economic efficiency upon which to base the size of the incentive fund out of which it is intended that all praemia should henceforward be paid.

Measures to improve the allocation of investment include the creation within each enterprise of a development fund to be financed from profits as well as by the absorption of funds set aside for the replacement of fixed assets, and to be used by the management for development purposes. This contrasts with the previous system in which both new investment and the replacement of fixed assets could only be undertaken with the approval of the center. Furthermore, the system of budget allocations for investment purposes is gradually being converted into a system of long-term bank credits while short-term bank credits are now being made available for working capital. Nevertheless, by 1968 only 20-25 per cent of total investment was decentralized, owing partly to the difficulty which the enterprises encountered in obtaining supplies from the centralized material supply system. Further improvements thus include the decentralization of supplies by the establishment of direct links between suppliers and buyers, and the gradual transition from a system of direct allocation to indirect allocation through the establishment of a wholesale trading network.

The changes in management described so far all increase the autonomy of the enterprise, at least formally. This same tendency is further apparent in the number of central targets and indicators handed down to it, which, including investment directives, have now been reduced to the following eight :

1. The volume of sales output, expressed in current planned prices, which replaces global output in value terms, the main performance indicator under the old system, whose use led to emphasis being placed on quantity rather than on quality and the pattern of demand ; the effect of this now indicator is reinforced by the introduction of direct ties between producing and trading enterprises ;
2. production assignments in physical terms for the most important products ;
3. the wage-fund which replaces the four previous mandatory targets relating to the wage fund, average wage, the number of employees and labour productivity ;
4. profits and the rate of profitability ;
5. payments into, and appropriations from, the budget ;
6. the volume of centralized investment and the use of productive capacity and fixed assets ;

7. the basic assignments for the application of new techniques ;
8. indicators relating to material and technical supplies. ^{17/}

The question remains, however, as to what freedom has effectively been granted the enterprise. For it is apparent from the preceding list that it does not enjoy, as it would in a fully decentralized, that is free market system, the liberty to determine its rate of output subject only to its production function, price or the demand function, and a further restraint consisting perhaps of the maximization of profits. The short answer is that the enterprise exercises very little freedom in the determination of its rate of output, its use of inputs, or the determination of prices as will be appreciated from the following illustration.

Suppose that an enterprise produces one commodity which in the short-run requires three inputs, labour and two materials, which we shall initially assume to be homogeneous. Then, given the preceding list of constraints, the enterprise's sales target determines the required value of its total revenue. Together with the centrally set product price, it also determines the required quantity of the enterprise's output. The enterprise, therefore, is not in a position to vary this as it would do in a market system. The profit target, in turn, expresses the required value of its profit, and, together with the sales target, the required value of its total cost. So far, then, the enterprise has no freedom whatsoever. But the value of total cost together with the centrally set material prices and wage, which the enterprise can, apparently, influence, does not determine the enterprise's combination of factors. It is tempting, therefore, to believe that it is free to vary its factor combination so as, for instance, to minimize cost and maximize profit. We may suppose that the enterprise in the traditional manner prefers to play safe, to overshoot rather than undershoot the target, ^{18/} and to maximize profit rather than just barely achieve its given objective.

But, in addition to the centrally set material prices, the enterprise is subject to three input constraints. They are the total wage fund and the two constraints relating to its use of materials which, we shall suppose, stipulate the supply of material 1 and the value of material 2. It follows that the enterprise cannot vary its employment of material 1, nor, given the centrally set price of material 2, that of material 2, nor, therefore, given total production and the production function, its employment of labour. The enterprise is, thus, not in a position to vary its factor combination, nor, as a result, to minimize cost nor, indeed, to influence the wage-rate. Its operations are completely determined by the center. ^{19/}

It is true that the example chosen is an extreme one and that if, for instance, labour were not homogeneous, the enterprise could substitute low for high wage labour. If, on the other hand, it were a multiple product firm and its sales targets were for overall sales, then it could substitute higher profit for lower profit products. This indeed, seems to have happened. ^{20/} Nevertheless, our example serves, on the one hand, to underline the low degree of decentralization and, hence, the narrow margin of independence which the enterprises have been granted and, on the other, to suggest that the reduction in directives may have served so far not so much to increase the enterprise's independence as to

eliminate the waste entailed in setting up unnecessary targets which then require central control. ^{21/} Indeed the newly acquired responsibility of the enterprise in the field of investment may be waste-curtailling rather than freedom-enhancing which is perhaps an explanation of why the enterprises have so far used their development funds to mobilize 'existing reserves' which do not require 'profound technological and organizational changes.' ^{22/}

Conclusion

The USSR has not limited itself to the avoidance of waste, however, as we have seen. By opting for price and, crucially, for continuous price adjustment, it has chosen to transform the traditional command system in the interests of efficiency. The discussion of price reform suggests that the correct valuation of resources is to be undertaken by computation or adjustment and as rarely by market competition, it would seem, as was true under the command system. This implies that the USSR has decided in favour of efficiency within a highly centralized system, a conclusion which is borne out by the very limited freedom given to the enterprise. To present the reform, as is often done, as a return to the autonomy of the enterprise acting freely according to the profit motive in a market framework, is therefore a gross misrepresentation. Nevertheless, the decisions to introduce direct ties between producing and trading enterprises and to establish a wholesale network do point to an increasing reliance on indirect allocation. It may, therefore, not be too rash to predict that the new system in the USSR is likely to be one of central price determination, by computation or adjustment, combined with gradual but growing resort to indirect allocation. A hybrid, in sum, of systems of central allocation with a shift in favour of the cheaper variations.

The Other Conservatives

In the countries grouped with the USSR, that is Romania, Poland and East Germany, all, with the exception of Romania, published their reform plans earlier than the Soviet Union. In Poland reform had indeed been taking place gradually ever since 1956 and, in July 1965, the Central Committee, though stopping short of a fully-fledged programme, adopted guidelines for the improvement of the planning and management system during 1966-1970, the period of the next five-year plan. In East Germany, the principles for the new system of economic planning and management were published in 1963. And in Romania, after a very gradual reduction of the number of central targets from 1955 onwards, guidelines for the reorganization of the planning and management system were adopted by the Rumanian Central Committee on October 5 and 6, 1967.

Institutions

As in the USSR, the reforms in the other conservative countries have led to a number of institutional changes. In East Germany these have included, first, the dissolution of the Economic Council, its replacement by eight branch ministries as of the beginning of 1966, and a reduction of the power of the regions. Second, there has been the transformation of the Vereinigungen Volkseigener Betriebe (VVB) from state administrations into state-owned companies

with responsibility for their own as well as their subordinate enterprises' financial independence. Both these institutional changes have been reflected, third, in the decision to replace the regional by VVB branches of the central bank. Finally, on January 1, 1968, the central bank itself has been separated into two banks, one the Bank of Industry and Commerce responsible for all commercial transactions, the other, the central bank which retains responsibility for issuing notes and for monetary policy. Thus, echoing the Russian reforms, there has been a shift of power away from the regions which, instead of benefiting the center has, however, favoured the associations. These played an important role prior to the reform and are to become the chief organ of management.

In Poland and Romania, re-organization has consisted, or is to consist, essentially in turning the enterprise association into the chief management unit. In Poland, the associations, the first of which were established in 1958, are to be financially independent. The leading association in each branch is now responsible not only for its own draft plan but also for the development plan of the entire branch. Moreover, it is expected to offer advice on organization and methods to non-member enterprises taking part in branch agreements, if necessary by utilizing a branch fund especially created for the purpose. The association allocates production among its member firms, has the right to transfer resources from one firm to another and is empowered to set prices for its member units. Moreover, it levies a part of enterprise profits which it uses to subsidize deficit firms and to contribute to the State budget and its own reserve fund in proportions determined by the Ministry of Finance and the relevant branch ministry. It has sole responsibility for all financial transactions with the State budget. With the approval of the Director of the Planning Commission, it contributes to its own investment fund.

It is further intended to increase the number of inter-branch agreements and to develop them to the point where they become the main element of production planning.

In Romania, 200 associations were set up between April and November 1969.^{23/} They are to be financially independent legal subjects as it is intended to put an end to the previous system whereby all income was paid over to the State and all expenditures paid for by the State. Within the framework proposed by the central plan, the industrial associations are then to elaborate their own production, basic supplies, export and import plans as well as financial plans, and to hand down the relevant indicators to their member enterprises. They are to be responsible for the allocation of production among member enterprises, for co-operation among them, and for the transactions of their enterprises with those belonging to other associations. The associations are further to ensure basic supplies, to undertake marketing operations on the domestic and foreign markets and, given the cooperation agreements negotiated by the ministries, to co-operate with foreign firms. In addition, it seems that the associations will be empowered to fix or modify the prices of certain products and services according to basic principles laid down by the central bodies.

In the field of investment they will be responsible for the investment plans of their subordinate enterprises and will dispose of investment funds, financed from planned enterprise profits, which will be used for the planned replacement of assets as well as other small investments. They will, finally, also be able to resort to bank credit which will be subject to a low rate interest.

The new powers given to the associations in Romania, Poland and East Germany seem to indicate a considerable degree of decentralization at least to this level. But, as we shall see when we consider the system of management, the chain of command from the center continues to exist and the associations are by no means free to conduct their affairs as they please. Indeed, in Romania, it would seem as if, for the moment, they are simply to constitute a new link in the command hierarchy.

Planning

As in the USSR, the reforms have emphasized the new role and techniques of central planning. In Poland emphasis has been laid chiefly on the latter. Thus the need to supplement material balances by the use of input-output analysis, to apply economic techniques more widely, and to make alternative computations of the national economic plan was repeated by the Fifth Party Congress which reviewed the experience of the reform in November 1968. But since this has become a regular feature of Polish economic discussion, its inclusion need not denote a radical change of policy. On the other hand, the decision to introduce the continuity of planning by attaching to annual plans the main targets for the following year, and by adding an additional perspective of two years to the five-year plans does indicate a change. And the same is true of the decision to constitute inventory, currency and capacity reserves.

In Eastern Germany, by contrast, attention has been paid to the role of the center which ultimately is to be that of controlling structural development and ensuring economic efficiency. In the Romanian guidelines both the center's function and the techniques of central planning are referred to. Thus the center under the reformed system is to ensure internal and external balance, the maintenance of the rate of growth, and, in so far as planning procedures are concerned, is to prepare a number of alternative plan projections with the help of mathematical techniques. In both countries, therefore, the center is considered as, ultimately, being responsible only for the framework of the economy, rather than for its day to day management as was the case before the reforms.

Prices

In all countries, too, except for Romania where it has been announced as a future measure, ^{24/} a price reform is in progress. In Poland, the reform introduced at the beginning of 1967 has simply continued the process initiated by the price revision of July 1960. This was a wholesale price adjustment intended to align wholesale prices more closely on average costs. The new prices did not reflect demand conditions and were set for periods of six to seven years. Moreover, retail prices were not altered to take account of the change in wholesale prices.

The 1967 reform has introduced the factory price for use in all industrial branches. Introduced in 1953, factory prices had been restricted to the consumption goods industries, where they were equal to the wholesale prices minus turnover tax plus subsidies, and were used not for transactions but for accounting purposes. The reform has turned them into transaction prices which are computed as the sum of average material and labour cost plus a profit margin, the capital charge introduced on January 1, 1966, being included not in costs but still as an item of profit distribution. The factory prices apply to all branches of industry, but only to associations. These then determine the accounting prices of their member firms according to various criteria relating to quality, technology and demand, although it is probable that this factor, which was completely omitted from the 1960 revision, is not yet being taken fully into account. Factory prices are now usually set for two-year periods and their function under the new system where profit is to be the chief success indicator, is to enable the authorities to set incentive prices for producers without having to vary the price paid by users.

Further changes are scheduled. The Fifth Party Congress meeting in November 1968 passed a resolution calling for a wholesale price reform to be introduced in 1970-71 which would align prices more closely on production costs and world market prices. Factory prices are also to be further modified to provide better incentives for technological progress, quality improvement and adjustment to demand.

In Eastern Germany, a wholesale price reform was introduced on April 1, 1964, and completed on January 1, 1967. This was intended to adjust prices to reflect costs, to eliminate the need for subsidies and to equalize profit margins throughout industry. It was also intended to reflect the influence of demand. Further changes are projected notably to take account of capital costs more fully. But, in contrast to both the USSR and Poland, it was only on January 1, 1969 that a capital charge began to be levied and then only in five out of the approximately 90 VVB's. ^{25/} The new prices are to be calculated on the basis of current costs and will include a uniform standard rate of 'profit' proportionate to required capital assets. It has also been announced that industrial prices are gradually to be reduced. ^{26/}

Management and Conclusions

With the changing role of central planning and the new emphasis given to enterprise associations, the system of management is also being, or to be altered, in all countries. This is apparent in the investment sector where, with the exception of Romania whose investment is still essentially budget financed, there has been a sizable degree of decentralization.

In Poland, priority investments will as before be financed out of the State budget. Central investments will be financed by bank credits which, however, will be repayable by budget allocations on completion of the project. This measure, which has been presented as a means of facilitating the control of investment, should nonetheless improve the allocation of capital. For if the cost of the project exceeds the planned figure, the bank charges additional interest. If the actual cost is smaller than envisaged, part of the saving remains

at the disposal of the enterprise for investment purposes. Association and enterprise investment, finally, is to be financed out of investment and development funds. In 1968, this investment amounted to some 20-25 per cent of the total.

In Eastern Germany, a new system of investment financing was introduced on January 1, 1968. According to this, large-scale investments are to continue to be financed by the center and to be subject to binding targets. But self-financing is to be encouraged on the basis of depreciation allowances, net profits and bank credits. In 1968, decentralized investment was expected to rise to 27 per cent of total investment, a slightly higher figure than that for either the USSR or Poland.

The change in the system of management is also apparent in the relations between the center and the associations on the one hand, and between the associations and the enterprises, on the other. In Poland the central mandatory targets and indicators handed down to the associations and enterprises have been reduced in number and are now the following :

1. the index of profitability, defined as the ratio of profits to labour and material costs, or, for certain branches, the rate of profit, that is the ratio, of profits to the value of fixed assets and working capital ; these are to be the chief indicators determining the praemia paid to association and enterprise staff ;
2. production assignments in physical terms in the basic industries ;
3. labour intensity and processing indicators in sectors where the product mix is greater ;
4. the gross production turnover in industries with a stable assortment of products ;
5. the wage fund, in all but the consumer service industries and those rendering services to agriculture, and prescribed employment limits ;
6. payments into and appropriations from the budget ;
7. priority and central investment.

At first glance, this list of targets seems to impose as many limitations upon associations and enterprises as were noted for the Soviet Union. But this is misleading both because no material or technical constraints seem to be imposed upon Polish producers and, secondly, because, although the number of targets and indicators appear to be approximately the same as in the USSR, administrative restrictions in fact are fewer as constraints two, three and four are alternatives. Thus, although the association's, or firm's independence is limited, it is freer to determine its activity according to price, and thus to respond to market forces. ^{19/}

In East Germany, according to the measures announced in 1968, the VVB's and the enterprise's criterion of success is stated to be net profit which serves to build up the praemia funds. But as in the USSR and Poland both the associations and the enterprises are subject to centrally imposed targets and indicators.

Three types of central plan directive have been elaborated for 1969 and 1970, and are to apply to 'structurally important products.' They are, first, the binding targets which include some specific yearly results ; the automation and mechanization of nationally important production processes ; large-scale investment ; vital deliveries to the domestic market ; total output of certain raw materials, semi-finished and finished products ; foreign trade ; the wage fund ; and price developments for some important commodity groups. Second, there are indicators relating to the application of science and technology and to standards of efficiency. Third, there are information indicators which refer chiefly to the relationship between the economic unit and the State budget in the plan year with a forecast for the next year. ^{27/} These central instructions are, it seems, applied to the VVB's which then pass them down to the enterprise where relevant and which differentiate the normatives where appropriate.

It is difficult to determine whether this makes the East German VVB's and enterprises more or less independent than their Polish counterparts. But it would seem that the German VVB's are already more independent than the Polish associations. In the first place, it is they, under the general supervision of the Government Commission for Prices, which are responsible for setting two-thirds of all wholesale prices whereas in Poland these are generally set by the ministries subject, in the case of key industrial goods, to the ratification of the Council of Ministers. In the second place, the VVB's object is to achieve a certain profit rather than, as in Poland, to supervise the fulfilment by its enterprises of centrally set targets. ^{28/} By 1975, moreover, when the implementation of the 1968 programme is due for completion, it is intended that the VVB's should be quite independent. Their member enterprises, meanwhile, will work only to long-term binding targets and to indicators, and within this framework, supplies and deliveries of goods and services will be ensured by long-term inter-enterprise contracts.

In Romania, the centrally determined directives are to be :

1. the value of production ;
2. the volume of deliveries to the home and foreign markets ;
3. the consumption of raw materials and other supplies ;
4. labour productivity ;
5. the wage fund ;
6. production costs ;
7. the productivity of capital ;
8. contributions to the budget, and to the association and enterprise funds.

For the associations these are to be indicative rather than firm commitments.

On the basis of its instructions, the association is then to set the following targets and indicators for its enterprises :

1. gross and net production ;
2. the volume of deliveries to the domestic and foreign markets ;
3. raw material supplies ;
4. labour productivity ;

5. the wage fund ;
6. the maximum labour force ;
7. the average wage ;
8. costs per 100 lei of production, and the total production cost of the most important products ;
9. the volume of investment ;
10. deliveries to the State,

and, it would seem, minimum profit. Since it has been stated that plans other than the central and association plans are to be expressed preferably in physical terms, because these 'fire the imagination and facilitate control', ^{29/} it is to be expected that many of the enterprise directives will be in physical rather than value terms.

The enterprise is to divide its planned profit between contributions to the State, the association, working balances, and for the repayment of bank loans which it is to be allowed to resort to for small investments with an immediate effect upon growth and cost reduction. Unplanned profits are also to be used to contribute to working balances and the state budget but, in addition, are to finance bonuses for employees and the enterprise's social and cultural fund.

It has also been stated that production and commercial organizations will in the future have increased authority over price determination although this is to be limited by the imposition of price ceilings and the expanded use of the state-trading network for products sold directly by producers. Although the association statute of April 1969, makes no mention of price determination, the statement may nevertheless be an indication of future intentions.

The long list of directives and the emphasis on physical targets brings out the very conservative character of the new management system. This is apparent even in the case of the association which is subject to fewer constraints than the enterprise but which appears to be more constrained than the Soviet production unit. But it is most glaring in the case of the enterprise which seems to be totally dependent on the association even if we assume that it is not subject to all the targets listed above. ^{30/}

For suppose once again that the enterprise produces one good with labour and two materials and imagine two alternative situations, one in which prices are given, and a future situation in which product prices may perhaps be set by the enterprise. We may suppose it to produce for the home market only and to be subject to the following targets : net production, the volume of deliveries to the home market, the supplies of the two raw materials, one of which is expressed in volume, the second in value terms, the wage fund, the average wage, and costs per 100 lei of production.

In the first situation, production and the volume of sales is given. The enterprise is thus not in a position to vary output or sales as it would be in a decentralized economy. With product prices given, moreover, the total revenue of the firm is determined. As both the inputs and the prices of labour and materials are given, so are total costs which, moreover, are set by the constraint relating to costs per 100 lei of production. The enterprise, there-

fore, can influence neither profit nor its total cost, nor, given the material and labour constraints, its combination of factors. It is neatly hamstrung and would be even if three of the constraints imposed upon it were removed. 19/

In the second situation, where we suppose the enterprise to be in a position to set its own product prices, production and the volume of sales remain set targets. Given the wage fund, the prices of the two materials, the quantity of material 1, and the value of material 2, total cost is also given. Given the constraint relating to costs per 100 lei of production, so is total revenue. Given the quantity of material 1, the production function, the wage fund and the average wage, so are the quantities of all inputs. Again the enterprise is neatly tied up and, more important, its freedom to set the product price is non-existent. 19/

These two examples suggest, in the first place, that under the reformed system, resources in the Romanian economy will for the most part continue to be allocated directly by the center. This is so despite the associations' and enterprises' right to undertake small self-financed or credit-financed investments and the enterprises' limited right to dispose of their unplanned profits. For both these measures appear to contribute not so much to the independence of the production unit as to the reduction of waste. The examples suggest, in the second place, that the Romanian system will continue to be burdened with superfluous directives whose removal would reduce waste more than they endanger the center's authority.

The absence of any price adjustment and the continuing lack of any capital charge imply, further, that the new system in its present form cannot even approach efficiency. Providing only for a change of institutions and a few modifications in the interests of cost reduction, the reform so far appears to be one in name only. The Romanian model must therefore be classed as the most reactionary of the East European systems, the Albanian excepted.

The Polish reform, by contrast, proposes an immediate devolution of power to the associations first but also, as demonstrated in a footnote, to the enterprise. This makes the Polish system more decentralized than the Soviet and a fortiori than the Romanian. The greater independence of the Polish association is further emphasized by the projected development of inter-branch agreements as the main instrument of production planning. Decentralization, on the other hand, does not extend to price determination. Thus the factory price reform of 1967 and the projected wholesale price reform of 1970-1971 express the decision to opt for efficiency, and not simply waste reduction, by means of central computation and adjustment rather than market competition. The picture which emerges, therefore, is of an economy which is already moving some way from direct to indirect allocation under central price determination, and which intends to progress further in this direction. The model that Poland seems to be working towards is then a variety of hybrid central indirect allocation.

In Eastern Germany, where both price determination and management have been substantially transferred to the VVB's, decentralization to association, that is VVB, level, seems to have gone further than in Poland. It is, moreover, to be completed by 1975, by which time the enterprises should be subject only to long-term directives and contracts leaving them, it would seem, increased independence in the short-run.

It looks, therefore, as though the preference for efficiency over mere waste avoidance expressed in the cautious wholesale price reform and continuing price adjustments is to be realized within a system in which the VVB will be the decision-making unit. This puts the projected system in Eastern Germany somewhere between Poland's central indirect allocation and the future regulated market of Hungary and perhaps Czechoslovakia, where the enterprise and not the association is to be the unit of decision.

The VVB system is likely to be less efficient than the proposed Hungarian and Czechoslovak models, however, for two reasons. The first is the present East German preference for prices fixed over long periods rather than for flexible prices. The second is the monopoly and monopsony that a 'market' of such huge units is likely to suffer from. Although this question does not seem to have been considered yet it must be if the VVB system is to be anything more than a step towards a more atomistic market.

The Radicals

In these, as compared to the conservative, countries, reform is not simply to mean cheaper central allocation, but instead a dismantling of the command system and the far-reaching decentralization of price-determination and allocation.

Hungary : The Framework

In Hungary, the basic principles of the 'new economic mechanism' were adopted by the Central Committee in May 1966. They emphasize the improvement in central planning techniques through the use of 'modern mathematical methods', the drafting of alternative projections and the selection of an optimal plan, plan co-ordination and, revealingly, the introduction of experts into planning work. The central targets are to be the rate of increase of the national income, the relationship between investment and consumption, the relative development of industry and agriculture, the volume of imports and exports and the ratio of the one to the other, the production of key commodities, certain essential investments, and indicators establishing the required qualifications of the labour force. The central plan is, thus, no longer to consist of a comprehensive list of directives issued to the units of production, but is to provide a framework within which they will operate.

If we exclude foreign trade, the chief area of direct control by the center remains investment. Large investments essential to the economy as a whole continue to be centrally allocated and financed by budget grants. Investments undertaken to modernize plant and equipment continue to require central approval, though they are now financed by bank credits. It is only small investments which escape central control and are to be decided upon and financed by the enterprises. In 1968, self-financing amounted to 40 per cent of total investment and reports for 1969 and 1970 indicate that the trend towards a substantial reduction of central investment is being pursued. ^{31/}

Otherwise production units are ultimately to be induced to achieve the centrally set targets essentially by means of fiscal, monetary, prices and incomes', and commercial policies. This has already meant a change in the fiscal

system. Improved central planning, therefore, is not, as in the USSR, to lead to more efficient centralization, but, instead, to provide guidelines for a decentralized economy achieving its objectives through essentially market-conform mechanisms.

Prices

This is emphasized by the price reform which was introduced on January 1, 1968 and which is to continue over a number of years. It has affected wholesale prices first and foremost although a few changes have been passed on to consumers through retail price modifications. It provides for the adjustment of prices to cover costs, including the capital charge introduced in 1964 and, in contrast to the conservative countries, for a substantial freeing of prices. Thus there are now three price categories, namely fixed prices for essential raw materials, foodstuffs and basic necessities, maximum prices, or maximum and minimum prices for the vast majority of consumption goods, and free prices for certain consumption goods, as well as for raw materials, semi-finished products and investment goods. The Hungarian price reform thus constitutes a gradual return to market pricing which, moreover, seems already to have extended beyond what was foreseen in the blueprint of the 'new economic mechanism.'

The Organization of Industry and the Role of the Enterprise

Considerable decentralization is also apparent when we turn to the organization of industry. In the conservative countries, as we have seen, the associations and particularly the enterprises have gained little if any independence. The advantage of the re-organization resides chiefly in the abolition of superfluous directives and in the replacement of the clumsy central control of every enterprise by the control of associations better placed to take account of the peculiarities of the various product processes.

In Hungary, a few new associations grouping enterprises which are too small to be viable will be added to those already in existence. By contrast, the industry directorates, which previously were responsible for the activity of the enterprises have been dissolved and, furthermore, associations are to be dismantled where their member firms are so large that they are economically viable on their own. In some cases they are to give way to economic unions, which will be created by agreement between independent enterprises. ^{32/} The justification of the Hungarian association is, therefore, no longer the control of individual enterprises, but the economically viable unit which it constitutes. The emphasis of industrial organization has thus shifted from the control units, ensuring the execution of central commands, to the production units acting independently and thereby creating a market network.

The independence of the enterprise is expressed in the following prerogatives. It is responsible for drafting its yearly and long-term plans. It is free to determine its output, to decide upon the variety and quality of its products, to make direct contact with other producing units and trading organizations, and to determine prices and sales conditions subject to government regulation. It has the right, further, to decide upon the volume of employment and of various current inputs and, subject to the continued central allocation or

approval of important investment projects, to replace equipment and undertake other investment. Its centrally imposed obligations, apart from those mentioned and the constraints introduced by monetary, fiscal and other policies to ensure the macroeconomic balance of the economy, are the central authority's power to supervise enterprises, to hire and fire their managers, to decide upon the distribution of profits, to set certain prices and to issue economic regulations generally. ^{36/} The enterprise thus has a status very similar to the status of an enterprise within a large company in a Western economy.

Given its prerogatives, the enterprise is free to maximize profits. ^{19/} This is in striking contrast to the conservative countries where, if the notion of profit has been reintroduced, the enterprise is subject to a profit or rate of profit target as one of several indicators, and can vary its total profit little if at all. Having maximized or, at least, determined its profit, the Hungarian enterprise divides it between the State treasury and its own needs, including the praemia paid to management and workers who thus have an interest in increasing profits to a maximum.

In contrast to the conservative countries the Hungarian reform, then, seeks not to improve the central direct allocation of resources while moving cautiously towards central indirect allocation but to scrap the traditional model and to install a socialist market economy subject to the constraints which we have listed. One of these is the continued central control of investment. The reform, in content, though not in the manner of its introduction, is thus revolutionary.

Czechoslovakia : The Framework

After the abortive reform of 1958, and renewed discussion as a result of the fall in national production in 1963/64, the principles for the second reform of the Czechoslovak planning and management system were approved by the Central Committee of the Communist Party on January 29, 1965. Central directives were to be reduced to a minimum leaving the authorities to concern themselves with the basic proportions of production, the relative importance of individual and social consumption, the raising of the standard of living, the general development of productive forces, essential investments, workers' qualifications, and the problems of the international division of labour. The instructions passed down to the planning and management bodies in August 1964 stated the remaining centrally planned targets to be production assignments for the most important commodities (52 items in 1965 as compared with 1,300 previously), the chief centrally financed investment projects, the total export figure as well as export targets for specific products, research and development, and defence requirements. In addition, they indicated that centrally fixed maxima would be applied to the volume of total investment carried out by branch directorates, to research expenditure, the consumption of certain imported materials or those which were in short supply, and, in exceptional cases, the number of employees and the wage-fund. ^{34/} As in Hungary, therefore, the central plan was to establish a national framework, but was no longer to lay down a detailed list of directives for the enterprise.

The central objectives were to be embodied in 14 to 15-year perspective plans, a five-year plan which would be elaborated on the basis of the latter and a one or two-year 'operative' plan. As in Hungary they were to be achieved by means of price, incomes, fiscal and credit policies, except in the areas of selective direct control.

If we except the foreign sector, the chief of these was to be investment. Essential investments were to continue to be financed entirely by the State. The larger investments of the associations were to continue to be subject to central approval but, like their more modest investments, to be financed out of the associations' own resources or by bank credit. Only those small association projects and enterprise investments which were to be financed out of enterprise renewal funds or by bank credits were to require no central approval.

The reappearance of a credit market, however controlled, and the federalization of Czechoslovakia, were to lead to a reorganization of the banking system. In addition to the Czechoslovak State Bank which was to function as a federal issuing bank, and the national Czech and Slovak Banks, there were to be a Czech and a Slovak Trade Bank, a Czech Economic Bank and a Slovak General Bank, all of which were to carry out domestic and foreign monetary transactions. There was, further, to be a Czech Investment Bank which was to act as intermediary between the State and industry and was also to finance investments in the service sector. Finally, the State Savings Bank was to be separated into Czech and Slovak units which were to increase their credit operations, notably to private individuals.

Prices

The decentralization implied in the changing character of central planning, in the determination of investment and in the reorganization of the banking system was also apparent in the price reform. This set out to adjust prices to reflect production cost and relative scarcities in two ways. The first was administrative and the initial step in this part of the reform was completed on January 1, 1967 when new calculated wholesale prices were introduced. Since these were average prices for groups of similar products, prices were then individualized, that is set for individual products. At the same time, the second phase of the administrative price reform, namely the adjustment of retail prices to reflect wholesale prices was set in train. This involved the reform of the turnover tax which constituted the difference between the wholesale price and the equilibrium price in the consumer market and, which, until then, had effectively divorced wholesale from retail prices. A first step in this direction was taken with the reduction of the widely differentiated rates of turnover tax from 3,000 to 1,100, a measure which was completed in 1968. The intention was then to introduce a flat rate for broad groups of commodities and then to iron out unnecessary divergencies.

The second way in which prices were to be modified to reflect production costs and relative scarcities was to allow for the controlled play of market forces. This was to be achieved by the creation of three categories of prices, namely centrally fixed prices, 'flexible' prices subject to maximum, or maximum and minimum, limits, and free prices. But, as fixed average prices were

set for each group of products, prices of individual products were not as free to respond to market forces as the previous sentence would seem to imply. For if, within a group a price rose, another price had immediately to be lowered to maintain the average. ^{35/} Unless, therefore, prices within a group moved freely so as to maintain the average, a move towards equilibrium in the case of the price of one good was immediately countered by an administrative change away from equilibrium in the case of another.

As for retail prices, only the 'free' prices were decontrolled. To avoid advantage being taken of the sellers' market, however, retailers were obliged to deposit the increase in profit obtained as a result of raising prices in a special account designed to subsidize decreases in free prices elsewhere. ^{35/} The freeing of prices was, therefore, considerably more cautious than in Hungary.

The Organization of Industry and the Role of the Enterprise

The conservative and hesitant nature of the Czechoslovak reform is also apparent in the decision to establish associations of enterprises, a decision which was put into effect in the middle of 1965. The associations were to be financially independent, to cooperate with the center in drafting long-term plans, and to determine, given the central plan, the development of their member firms. They were also to undertake certain investments. They were to become responsible for the management of their member enterprises and to have direct control over auxiliary undertakings such as supply and sales organizations and research institutes. Finally, they were to levy contributions from their member firms. Thus, although they did not reestablish the command system of enterprise control which the reform set out to abolish, they nevertheless introduced a new tier of control which ran counter to the complete decentralization of the economy. Compulsory membership of an association was to have ceased in 1970, but the draft legislation which would have permitted this has now been abandoned.

The member enterprises which were no longer to be subject to centrally imposed targets, with the exception of those which we have already noted, or to be subject to binding targets imposed upon them by the associations, should generally have been free to determine the volume and composition of their output, their inputs of labour and materials, the prices, within the framework provided by the new price system, of both outputs and inputs, and have had considerable latitude to finance investments out of profits or by drawing on bank credits. In short, the majority of Czechoslovak enterprises should have been as free to maximize profits as their Hungarian counterparts.

Instead, however, the authorities ruled that enterprises should maximize gross income, that is total revenue less material costs and depreciation, in other words, net value added or the enterprise's contribution to national income. But to tote up, ex post, the sum of net value added in order to obtain an estimate of national income, is one thing. To set net value added as a target, ex ante, is another. For, in contrast to the maximization of profits, it amounts to requiring that, when comparing revenue to cost, the enterprise exclude an element of cost, namely labour. This means that the firm's rate of output must be inefficient. ^{19/} The absurdity of the gross income target, which is a logical

consequence neither of decentralization nor of the decision to rationalize the economy, 36/ seems to have been perceived however for, from the end of 1968 onwards, profit began to replace gross income as the chief criterion of success. It seems indeed to have become the predominant criterion although gross income has not been abandoned altogether.

The gross income, or the profit, of the enterprise was to be put to various uses. Out of it were to come the payment of taxes and the association levy, the payment of social insurance, the capital charge and the repayment of loans. The remainder was to flow into five funds, the reserve fund, the risk fund (in retail establishments where activities are subject to seasonal fluctuations), the renewal fund (which was also to appropriate a part of the depreciation charges), the fund for social and cultural purposes, and the wage-fund. This, in turn, was to be divided into two parts, the basic wage fund, on the one hand, out of which the basic wages, determined according to centrally set scales, and praemia for individual achievements were to be paid, and the premium fund, on the other, which was to reward the working collective in proportion to the overall results of the enterprise.

The Czechoslovak programme of reform appears then to have been at once more cautious and less coherent than the Bulgarian. Caution is apparent in the creation of enterprise associations and in the decontrol of prices. Incoherence is apparent in the initial choice of gross income as chief success indicator despite the fact that it could not be justified on the grounds of efficiency. Both characteristics are perhaps to be attributed to the fact that the Czechoslovak reform was the first attempt at radical change, and to succeed in the long run had to accept political compromise in the short.

Whatever its imperfections, however, the Russian invasion of August 1968 and the resulting macroeconomic disequilibrium have either brought the reform to a standstill or reversed it. This is perceptible in the decision to maintain associations but it is most apparent in the field of investment and in the de-control of prices. In 1968 the proportions of total investment accounted for by government allocation, bank credit, and self-financing were, respectively, if we exclude budget dependent organizations, 13 per cent, 30 per cent and 57 per cent. Self-financing, therefore, accounted for more than half total investment. In 1969, the same pattern emerges, the proportions being, respectively, 12.5 per cent, 30.5 per cent and 57 per cent. In 1970, however, the planned proportions are, respectively, 35 per cent, 20 per cent and 45 per cent, 37/ indicating a marked reinforcement of central control, though still a much higher degree of decentralized investment than in the conservative countries.

The trend towards recentralization is even more perceptible in the case of prices. At the end of 1967, the year the price reform was introduced, 'flexible' and free wholesale prices accounted for 24 per cent of industrial output, although as has been mentioned, this flexibility was less than may be supposed owing to the existence of fixed average prices for groups of commodities. Free retail prices accounted for 13 per cent of total retail turnover. In 1968, free and 'flexible' prices accounted for 28 per cent of total transactions, and in the first half of 1969, to 40 per cent of total transactions ! But, in mid-1969, this was cut back sharply to 20 per cent by the reimposition of controls. On January 1, 1970, finally a complete freeze was proclaimed on retail prices at June 1969 levels.

The reimposition of central control has been explained, and justifiably so, by the disequilibrium following the invasion of 1968. But it is difficult to discern at present whether once equilibrium is reasonably well reestablished, the process of decentralization will be pursued or whether it will be sacrificed to political exigencies. If it were, the Czechoslovak economy would slip back into the conservative camp.

Bulgaria

In Bulgaria, the new system of planning and management was published for 'discussion' in December 1965 and accepted by the Central Committee at the end of April 1966. As in Czechoslovakia and Hungary it reduces central directives to a handful, namely the volume of production in physical terms for the most important products, maximum limits for investments, the use of certain important materials, the most important construction projects, export targets expressed in foreign currency and the allocation of foreign exchange for imports. These objectives are to be included in the central one-year and longer-term plans, which will be elaborated in collaboration with the enterprises, and are to be achieved by monetary, fiscal, prices and incomes, and foreign trade policy, as well as by direct control.

If we exclude the foreign sector, the chief area of central control is again to be the investment sector, as in the other two countries. Essential investments will be budget-financed as before, but most investments are to be decided upon by the enterprises, subject to centrally set maximum limits, and financed out of their funds for development and technical improvement, or for new products. The enterprise will also be able to resort to bank credit. In 1968, however, only 20-25 per cent of total investment was financed by bank credits or the enterprises own resources, a figure which resembles that of the conservative countries but which is far below the Czechoslovak or Hungarian. In 1969 the share of central investment was to have been substantially reduced, but, in fact, this does not seem to have occurred.

As in the two radical countries, however, the Bulgarian price reform is to consist of two parts, first, the calculation of new wholesale prices to reflect cost including the capital charge which was introduced after 1965 and, it would seem, the 'land equalization tax' or rent, and, second, the controlled freeing of prices. The first part was begun in 1969. The second part remains a project according to which prices would be divided into centrally set prices for basic products and essential consumption goods and services, limit prices subject to maxima and minima for the bulk of semi-finished and finished products, and free prices for luxury goods as well as for seasonal or regional products.

It is within this framework that the associations of enterprises, which were created on the basis of a resolution of the Central Committee of May 1963, and their subordinate enterprises will operate. The functions of the associations are not very clearly described and it is therefore difficult to tell whether they will replace central directives by their own, or whether they will allow the enterprises considerable independence to respond to market forces in the short-run at least. What is known is that they will dispose of investment funds financed out of the depreciation funds of the enterprise and that their enterprises will

conclude contracts with those belonging to other associations. The projected system seems therefore to resemble the future East German system with price flexibility thrown in.

In addition to the remaining central targets listed earlier, the enterprises will be subject to a number of other indicators. Gross income is important amongst these, although profit has been described as 'the most synthetic indicator of the way in which the means of production and the labour force are being used in each individual enterprise.' ^{38/} On the other hand, as of January 1969 new mandatory targets were introduced amongst which were essential cooperative deliveries, the maximum wage fund per 100 leva of income or some other specific directive, and the main technical development projects. To these must be added two indicators relating to wages, one fixing the share of wages in total enterprise income, and the other the ratio of average wage growth to the growth of the productivity of labour. The resulting picture is far from clear. However, assuming that, in the short-term, the enterprise under the new system, attempted to maximize gross income subject, at best, to the two wage normatives, it could only achieve a constrained and inefficient maximum.

The Bulgarian reform project would seem to suggest the abandonment of a centralized system and the introduction of a market economy framed by a national plan. This, however, seems to be a vision of the future. The realization to date probably makes Bulgaria more akin to Poland and Eastern Germany than to Hungary and to the proposed reform in Czechoslovakia. The Bulgarian experiment must, therefore, be looked upon at present as a half-way house between the conservative and radical programmes, inclining, however, towards the radical camp.

III.

CONCLUSIONS AND PREDICTIONS

At the beginning of this chapter we stated that the East European authorities had all opted for reforms leading to the creation of efficient systems rather than to mere waste avoidance. After surveying the reform programmes, however, we see that in only five countries, the USSR, Poland, Eastern Germany, Hungary and Czechoslovakia, has the revaluation of resources required to achieve this end proceeded at all far. In Bulgaria, the necessary price reform has only just begun, and in Romania, though decided upon, it remains conspicuously absent. In this country, especially, therefore, reform so far has amounted to reorganization and waste reduction within the existing framework.

To analyse the projects of the seven East European countries, we first divided them into two groups : the conservatives who wish to improve upon but not to scrap the existing model, and the radicals whose aim is to break with the past. The conservatives include the USSR, Poland, Romania and Eastern Germany ; the radicals Hungary, Czechoslovakia and, with certain reservations, Bulgaria. To bring out the differences between the two groups we placed particular emphasis upon the provisions relating to price determination and to the role of the enterprise which we summarize below.

In the USSR, Poland and Romania, price determination is to continue to be pursued by the central authorities essentially. In Eastern Germany it is to devolve largely to the VVB's. In all the conservative countries it thus remains above all an administrative function. The enterprise in turn remains a link in the chain of command. For, despite the introduction of profit as a success criterion, its rate of output and employment of factors are determined chiefly by directive. The only change in this respect is that its instructions emanate increasingly from the association or trust, rather than the center. Hence the conservative system, despite gradual decentralization, remains a mandatory one in which the plan is implemented essentially by handing orders down through the command hierarchy to the production and distribution units.

In the radical countries, on the other hand, and in contrast to previous practice, price determination is being left partly to the market transactions of consumers, enterprises and owners of factors. In these countries, but not in the others, retail prices are therefore being corrected and price flexibility is a recognized objective. The emancipation of the enterprise implied in the return to market pricing is evident also in the raising of the maximization of profit, or gross income, to the rank of chief success criterion, and in the consequent dismantling of the command system. Future plan fulfilment will thus depend upon the center's guiding the economy, by means essentially of indirect policies, towards its macroeconomic targets, while leaving microeconomic decisions to the market transactions of the individual production and consumption units.

We broke the two groups of reforms down further by classifying the various proposals in terms of the combinations of methods of price determination (computation, adjustment or competition) and allocation (direct or indirect) which characterize them. Proceeding to do so enabled us to abandon the historical

comparison and to focus more closely on the relationship between the new models and the existing codification of economic systems. The resulting classification, which fulfils the first task we set ourselves at the beginning of the chapter, is given below where the countries are listed in ascending order of the decentralization indicated by their predominant combination of price determination and allocation.

The most centralized models are the Soviet and Romanian. They combine central price determination with predominantly direct allocation except for the distribution of consumer goods and the allocation of labour where indirect allocation is the rule. In Romania especially, however, the intention is to decentralize management though, for the moment, not pricing to the associations. The two systems can thus be described as forms of central direct allocation with a move in Romania above all towards a form of central indirect allocation. In Poland price determination remains centralized but certain other management functions have already been transferred to the associations : the system thus constitutes the beginnings of a form of Lange-type central indirect allocation. The East German model, by contrast, is not readily recognizable from the literature. But, with both price determination and other management functions transferred to the associations (VVB's) it may be described as a half-way house between central indirect allocation and a market system in which enterprises rather than associations play the decisive role in resource allocation. The Hungarian, Czechoslovak and Bulgarian plans in that order are, finally, the most decentralized. They propose a market network combined with the center's direct control over priority investment and its regulation of the economy by market-conform policies : in other words they promise forms of the regulated market. It must be emphasized, however, that only in Hungary is this anywhere near realization.

The preceding list calls for two observations. The first is that, as we showed in Section II, all the reform systems are hybrids, that is characterized by a combination of more than one method of price determination and one method of allocation. This confirms our first prediction that the only feasible solution for a socialist state at present on both ideological and practical grounds is a 'mixed' economy in the sense just stated.^{39/} The second observation is that, in contrast to the last great period of economic change in the area, that is the Stalinist epoch, the proposed systems all differ considerably from each other.

To these we may add a comment. It is that although the reforms are tending to establish systems of central indirect allocation or market systems in which a central authority is available for income redistribution, marginal cost pricing has nowhere been tried. Although the principle was discussed in connection with the Polish theses of 1957,^{40/} the maximization of profit, or less coherently, of gross income, has everywhere been preferred to Lerner's Rule. Is this because it is a socialist, not a communist concept, and therefore ideologically suspect ? Is it because the practical difficulties of calculating marginal costs are too great, or the cost of administering the scheme too high for reformers bent on economy ? No information seems to be available on the subject. Yet, given the importance attributed to it in the literature on the socialist economy, it would be interesting to know why the Polish discussion at least came to nothing.

We are now in a position to consider the predictions concerning the evolution of economic systems formulated at the beginning of the chapter. The first was that awareness of cost would lead economies away from expensive and towards the cheaper forms of central allocation. Looking back we see that the reforms have all been undertaken to cut cost and achieve efficiency and that they have, despite their variety, one thing in common: the gradual replacement of the traditional system of direct central allocation by a 'cheaper' system, namely central indirect allocation in some cases and some form of market economy in the others. The reforms can indeed be looked upon as the embodiment of two major decisions, to achieve efficiency in the first place, and to decentralize microeconomic decisions in the second. The first prediction thus seems to be confirmed.

Our expectation that the more sophisticated the economy, the greater, given cost consciousness, the extent of its decentralization, is however disappointed if by sophisticated we mean economically developed. For the most economically advanced Eastern European countries are, by general consent, Czechoslovakia and Eastern Germany. Yet Czechoslovakia's reform programme though radical, is less so than Hungary's, and Eastern Germany's proposed system though the most decentralized of the conservative reforms, is less so than Hungary's, Czechoslovakia's or even Bulgaria's. Moreover Bulgaria, which is one of the most underdeveloped of the Eastern European countries, has one of the most radical reform projects. The evidence, therefore, does not confirm, but neither does it contradict, the proposed relation. The reason for this may be that economically sophisticated should not be identified with economically developed. Or, since the prediction rests on the assumption that other things are equal, whereas they are not, that economic development is relatively unimportant in determining the extent of decentralization as compared to these other factors.

The third prediction was that the greater a country's trade dependence, the greater, given cost consciousness, the extent of its decentralization. To show this requires not only a knowledge of the pattern of reform but also estimates of trade dependence, that is of the ratio of trade to national or material product, for the Eastern European countries. These are hard to come by as they demand considerable computation. East European trade figures are given in world prices at official exchange rates whereas their material product statistics, which supply a figure only for the balance of trade, are published in unrelated domestic prices. But the only complete series available to date, ^{41/} which is given in a recent study published by the United Nations Economic Commission for Europe, ^{42/} provides the following ranking of the East European countries by trade dependence. The USSR is omitted but is known to have the lowest trade dependence of all the East European countries.

Trade Dependence 1963-1967 43/

	<u>%</u>	
	<u>Imports</u>	<u>Exports</u>
Bulgaria	17.0	15.7
Czechoslovakia	12.0	12.8
Eastern Germany	11.6	12.6
Hungary	12.9	13.7
Poland	7.3	6.9
Romania	9.0	8.4

As we should have expected, it shows that the four most trade-dependent countries are those which, as a group, have the most decentralized reform projects. It is true that if we apply the prediction to the four countries individually, we expect Bulgaria to have the most, Hungary the second-most, Czechoslovakia the third-most and Eastern Germany the fourth-most decentralized reform, where-as a ranking by order of decentralization puts Hungary first, Czechoslovakia second, Bulgaria third, and Eastern Germany, fourth. But it must be remembered that this prediction like the previous one assumes that other things are equal, which they clearly are not in Eastern Europe. If this is taken into account, the discrepancies in the individual rankings loom less large and the result for the group of four countries becomes the more impressive. It suggests, indeed, that trade dependence may be one of the most important factors explaining decentralization.

But this immediately raises the question as to why, if economic sophistication does not seem to have a significant effect on decentralization, trade dependence should have. For in both cases, it is argued, it is the increase in the number of variables which the center has to deal with as development occurs or trade is undertaken which will, if the authorities become cost conscious, lead to decentralization. Assuming that our equation of the economically sophisticated with the economically developed is justified, the answer to the puzzle may be that an increase due to economic sophistication is an increase in the variables within the area subject to the center's authority and therefore subject to its control, whereas an increase due to trade is an increase in the variables outside the area subject to the center's authority and therefore beyond its control. Thus for any given increase in the number of variables, the variations in those due to economic sophistication can be held down whereas the variations in those due to trade cannot. In other words, for any given increase in the number of variables the cost of central administration will be lower in the first case than it is in the second.

The preceding confrontation of predictions and facts is insufficient to establish the propositions concerning the evolution of economic systems made in the first part of the chapter. To do so would require considerably more tests with more countries during more periods of time. Nevertheless our findings with respect to Eastern Europe alone extricate us from the tangle of fact and, by suggesting relationships, prompt a number of conclusions concerning the further evolution of economic systems in this area. First, it seems likely that, with basic industrialization out of the way and barring internal and external

upheavals, the process of East European decentralization will proceed in the years ahead. Second, if trade dependence in Eastern Europe increases as it promises to do, ⁴⁴/ this trend is likely to be reinforced. Third, it will probably be most marked, as has been the case until now, in the countries which are the most heavily trade-dependent.

We now turn from the evolution of the Eastern European economic systems in general, to the changes occurring in their foreign trade systems in particular.

NOTES

- 1/ The suggestion that, in 1963 at least, Soviet economists were essentially preoccupied with the reduction of obvious waste rather than with economic efficiency is made in GROSSMAN, Gregory : "Notes for a Theory of the Command Economy." Soviet Studies, October 1963, p. 110.
- 2/ These are discussed in detail in the appendix. To the literature on the subject cited below should be added LERNER, Abba P. : The Economics of Control. New York, The Macmillan Company, 1944, the very famous analysis of a hybrid system, and WILES, Peter J. D. : The Political Economy of Communism. Oxford, Basil Blackwell, 1962, chapter 10, "How to Rationalize a Command Economy" in which Wiles lists the possible rational systems and then goes on to discuss, first, the changes which the introduction of some of them would imply for the Stalinist economy, and second, what rational systems have been or are likely to be applied in Communist countries.
- 3/ PARETO, Vilfredo : Manuel d'économie politique. Paris, Girard, Second Edition, 1927 ; pp. 233-234.
- 4/ See for instance DICKINSON, H. D. : "Price Formation in a Socialist Community." Economic Journal, June 1933.
- 5/ BARONE, Enrico : "Il ministero della produzione nello stato collettivista." Giornale degli economisti 1908. Reprinted as "The Ministry of Production in a Collectivist State." Collectivist Economic Planning. London, George Routledge and Sons, 1935. Barone suggests that the Ministry of Production should first decide at random upon a series of production rates for the goods produced in the socialized sector and then adjust their 'prices', or equivalents in terms of those produced by individuals, so as to equate demand and supply and to equate the 'prices' of products to their marginal cost, the combination of factors in each industry being then adjusted to minimize the cost of production.
- 6/ LANGE Oskar : "On the Economic Theory of Socialism." On the Economic Theory of Socialism, Benjamin E. Lippincott (ed.), Minneapolis, University of Minnesota Press, 1938.
- 7/ Dickinson proposed central adjustment after having renounced centralized price calculation not, like Pareto, on the grounds that the simultaneous solution of a multitude of given equations was impossible, but precisely because the parameters of the system were not given, since the "data . . . , which would have to be fed into the equation machine, are continually changing." DICKINSON, H. D. : Economics of Socialism. Oxford, Oxford University Press, 1939 ; p. 104.
- 8/ See WILES, The Political Economy of Communism.
- 9/ DICKINSON : Economics of Socialism, pp. 104-105.

- 10/ "This seems to be much the same thing as if it were suggested that a system of equations which was too complex to be solved by calculation within reasonable time and whose values were constantly changing could be effectively tackled by arbitrarily inserting tentative values and then trying about till the proper solution was found." HAYEK, Friedrich A. : "Socialist Calculation : The Competitive Solution." Economica, May 1940 , pp. 130- 1.
- 11/ This proposition and those which follow under this and the next heading are demonstrated more rigorously in Appendix I, pp. 132-136.
- 12/ The difficulties of applying this Rule in practice are analysed in detail in DOBB, Maurice : Welfare Economics and the Economics of Socialism : Towards a Commonsense Critique, Cambridge, Cambridge University Press, 1969, and in LERNER : The Economics of Control.
- 13/ This implies that administration is subject to constant or decreasing returns to scale, which doesn't seem an unreasonable assumption.
- 14/ International Trade and Central Planning. Alan A. Brown and Egon Neuberger (Eds.), Berkeley and Los Angeles, University of California Press, 1968 , p. 64.
- 15/ Specifically, some of the considerations governing the price-reform have been stated to be that :
 "i. prices of interchangeable goods have not only to reflect their own production costs, but also their efficiency in terms of utility, according to the principle of equal satisfaction of consumers' wants ;
 ii. prices of new products have to be determined in such a way that both the producers and the consumers should share in the benefits derived from their output ;
 iii. the level of prices ought to be influenced by quality ;
 iv. prices should take into account the degree of satisfaction of the social needs and the existing relationships between supply and demand."
Economic Survey of Europe in 1966 - The European Economy in 1966, New York, United Nations, 1967, Chapter II, p. 55, citing A.I. Pashkov : CESES, IIIrd International Seminar, 15 September 1966.
- 16/ Economic Survey of Europe in 1967 - The European Economy in 1967. New York, United Nations, 1968, Chapter II, p. 68.
- 17/ Economic Survey of Europe in 1965 - Part I : The European Economy in 1965. New York, United Nations, 1966, Chapter I, p. 60.
- 18/ The new system has not eliminated this practice for it still costs an enterprise less to overfulfill than to underfulfill the plan.
- 19/ See Appendix II.
- 20/ Economic Survey of Europe in 1968 - The European Economy in 1968. New York, United Nations, 1969, p. 105.

- 21/ For analyses which conclude that the independence of the Soviet enterprise under the new system is limited and that the reduction of targets may be an overdue simplification of administrative procedure see
- i. HÖHMANN, Hans-Hermann : "Die Sowjetische Wirtschaftsreform vom Herbst 1965 - Ausmass und Bedeutung der institutionellen Veränderungen." Wirtschaftsreformen in Osteuropa. Karl C. Thalheim und Hans-Hermann Höhmnn (Eds.), Köln, Verlag Wissenschaft und Politik, 1968 ; p. 57.
 - ii. SAND, Hans B. : "Die Sowjetische Wirtschaftsreform in der Praxis - Erste Ergebnisse und Probleme." Wirtschaftsreformen in Osteuropa. Karl C. Thalheim und Hans-Herman Höhmnn (Eds.), Köln, Verlag Wissenschaft und Politik, 1968 ; p. 99.
 - iii. The European Economy in 1968, pp. 106-7.
- 22/ The European Economy in 1968, p. 106.
- 23/ KASER, Michael and ZIELINSKI, Janusz G. : Planning in East Europe - Industrial Management by the State. London, The Bodley Head, 1970 ; p. 44.
- 24/ In 1963, however, an adjustment of wholesale consumer goods prices took place. See ROHLEDER, Claus-Dieter : "Die rumänische Wirtschaftsentwicklung - Beginn einer neuen Phase." Wirtschaftsreformen in Osteuropa. Karl C. Thalheim und Hans-Hermann Höhmnn (Eds.), Köln, Verlag Wissenschaft und Politik, 1968 ; p. 240.
- 25/ The European Economy in 1968 ; pp. 107-8.
- 26/ Economic Survey of Europe in 1969 - The European Economy in 1969. Draft, chapter I, p. 133.
- 27/ The European Economy in 1968, p. 107.
- 28/ KASER and ZIELINSKI, Planning In East Europe, pp. 89-90 and 93-94.
- 29/ ROHLEDER, "Die rumänische Wirtschaftsentwicklung", p. 256.
- 30/ Though reasonable this may not be realistic. For many years Eastern Europe has been the home not only of 'production for production', but of 'administration for administration', where the USSR found it necessary to set targets for the wage fund, the average wage and the number of employees, although any two of these would have implied the third.
- 31/ The European Economy in 1969, chapter I, p. 74.
- 32/ SCHMIDT-PAPP, Ernst : "Die ökonomische Reformbewegung in Ungarn und der Neue Wirtschaftsmechanismus." Wirtschaftsreformen in Osteuropa. Karl. C. Thalheim und Hans-Hermann Höhmnn (Eds.), Köln, Verlag Wissenschaft und Politik, 1968, p. 209.
- 33/ Ibid., p. 208.
- 34/ The European Economy in 1965, chapter I, p. 63.
- 35/ The European Economy in 1967, chapter II, p. 65.

- 36/ To be explained perhaps by an ideological aversion to profit maximization or by the fear that by working to profit enterprises would discharge too many employees.
- 37/ The European Economy in 1969, chapter I, p. 82.
- 38/ The European Economy in 1965, chapter I, p. 62.
- 39/ It may be noted that the hybrid solution is also acceptable in Eastern Europe for historical reasons. For it was, though inefficiently administered, the Stalinist solution. Computation, adjustment and competition were all used, the first in a very rough form, for wholesale pricing and as the basis for bargaining in intra-Comecon trade, the second in the consumer goods and labour market, and the third in the restricted markets for farm produce.
- 40/ DOBB, Welfare Economics and the Economics of Socialism, p. 233.
- 41/
- i. Eastern European input-output computations have so far yielded trade dependence figures for Bulgaria, Czechoslovakia, Hungary and Poland only. Economic Bulletin for Europe, Vol. 21, No.1, pp. 48-9.
 - ii. Wiles publishes estimates for five out of seven East European countries, omitting Bulgaria and Eastern Germany, and provides a complete series for these five countries for 1963 only.
WILES, Peter J.D. : Communist International Economics, Oxford, Basil Blackwell, 1968 ; pp. 433-47.
 - iii. F. L. Pryor appears to have the necessary data but not to have made them available in published form. Moreover, his series seems to relate to only two post-war years. See International Trade and Central Planning, pp. 163-4.
- 42/ "Trade Dependence in European Countries." pp. 43-67. The material product figures used for these calculations are not the official figures but estimates obtained by establishing the relationships between 36 physical indicators and per capita gross domestic product (in dollars at official exchange rates) in 29 West European and overseas countries in 1965, averaging the 36 estimates of per capita GDP obtained for each country on this basis to yield a single figure in each case, repeating the correlation exercise with the estimated per capita GDP values, and using the resulting regression equations to estimate per capita GDP for the Eastern European countries.
- 43/ Ibid., p. 53.
- 44/ The reasons for this are the new emphasis on efficiency, the Western eagerness to expand its trade with Eastern Europe and the evidence to the effect that Eastern European trade dependence is lower than that of comparable Western nations. See PRYOR, F. L., op. cit. and BERGSON, Abram : "On Prospects for Communist Trade," International Trade and Central Planning ; p. 385.

IV.

Chapter II

APPENDIX IEFFICIENCY

The purpose of this appendix is to discuss efficiency in two systems of resource allocation. The first is the free market, the second central, or State, allocation. This includes, but, as will be clear from Section III, is not identical with what is often referred to as 'central planning'. Ownership models, which are a separate subject, are not discussed. ^{1/} To compare the free market and central allocation, we assume a given economy which is in a position to choose either one or the other.

The analysis has been prompted by the changes occurring in the economic systems of Eastern Europe. But it goes over much of the ground covered in the inter-war debate concerning allocation under capitalism and socialism. ^{2/} In contrast to this discussion and much of the later literature, however, it compares the cost of efficient allocation under the two systems considered.

Part I defines efficiency and analyses the efficiency conditions both in the presence and in the absence of externalities. Part II demonstrates that a free market can achieve efficiency under perfect competition, although not if external effects are present.

Part III shows that central allocation can be efficient in the absence of the conditions required for perfect competition, in the presence of externalities and, in sum, under less restrictive conditions than the free market. But it also shows that there is a cost attached to central allocation which is not attached to the operation of the free market and which implies that central allocation will always be inefficient as compared to an efficient free market. The size of the cost of central allocation is shown to vary with the form of central allocation, to tend to vary with the complexity of the economy and to be greater in an open than in a closed economy.

Part IV compares the adoption of a free market system and of central allocation for efficiency purposes. The conclusion is drawn that the free market will be preferable to central allocation if the economy can achieve efficiency, or the same degree of inefficiency, under both systems. Central allocation may be preferable to the market if the market is inefficient, although it will not necessarily be so.

Part V uses the findings of the paper to qualify some common prejudices concerning the market and central allocation, to explain certain aspects of the Western and of the Eastern European economies, and to comment briefly upon the present evolution of the Eastern European systems of allocation.

I. DEFINITIONS AND CONDITIONS OF EFFICIENCY

Definitions

Efficiency may be either technical or economic. For the economy as a whole, a technically efficient situation is one in which no more of one good can be produced without reducing the production of another ; an economically efficient situation is one in which no more of one good can be produced without reducing the production of another, and in which no member of the community, whether seller of productive services or consumer, can be made better off without another member of the community being made worse off. Economic efficiency thus entails the efficiency of production, the efficiency of the markets for productive services, and the efficiency of distribution. Our discussion of economic efficiency considers only the first and the third ; but the inclusion of the second would not alter our conclusions.

The Conditions of Technical Efficiency

The necessary condition for either technical or economic efficiency is full employment. But it is not sufficient. To it, in the case of technical efficiency, we must add the condition that the ratio of the marginal physical products of any two inputs x and y used in the production of outputs A and B , be the same in the two productions. The textbook demonstration of this is as follows. ^{3/} We consider only the first-order conditions, on the assumption that the second-order conditions are satisfied. We begin by assuming that there are no externalities.

1. Assume an economy endowed with fixed quantities X^* and Y^* of two inputs x and y . These produce two outputs A and B whose production functions are, respectively $A = f_a(x_a, y_a)$ and $B = f_b(x_b, y_b)$. x_a and y_a are the amounts of x and y required to produce a unit of A and x_b and y_b the amounts of x and y required to produce a unit of B . Given the production of B (but not the factor proportions employed in the production of B), maximize the production of A or, formally, maximize $A = f_a(x_a, y_a)$
subject to the constraints $f_b(x_b, y_b) = B^*$ (the production of B is given)
 $x_a + x_b = X^*$
 $y_a + y_b = Y^*$

Form the Lagrangean

$$A_{\lambda} = f_a(x_a, y_a) + \lambda [f_b(x_b, y_b) - B^*] + \lambda_2 [x_a + x_b - X^*] + \lambda_3 [y_a + y_b - Y^*]$$

and differentiate partially with respect to x_a , x_b , y_a and y_b , λ_1 , λ_2 , and λ_3 .

Setting each of the results equal to zero,

$$\frac{\partial A_{\lambda}}{\partial x_a} = \frac{\partial f_a}{\partial x_a} + \lambda_2 = 0 ; \quad \frac{\partial A_{\lambda}}{\partial y_a} = \frac{\partial f_a}{\partial y_a} + \lambda_3 = 0$$

$$\frac{\partial A_{\lambda}}{\partial x_b} = \lambda \frac{\partial f_b}{\partial x_b} + \lambda_2 = 0 ; \quad \frac{\partial A_{\lambda}}{\partial y_b} = \lambda \frac{\partial f_b}{\partial y_b} + \lambda_3 = 0$$

$$\frac{\partial A}{\partial \lambda_1} = f_b(x_b, y_b) - B^* = 0$$

$$\frac{\partial A}{\partial \lambda_2} = x_a + x_b - X^* = 0$$

$$\frac{\partial A}{\partial \lambda_3} = y_a + y_b - Y^* = 0,$$

the resulting expressions constitute the first-order conditions for the maximization of A subject to the constraints listed.

2. The expression $\frac{\partial f_a}{\partial x_a}$ is the marginal product of x in the production of A,

and similar expressions for y_a , x_b and y_b , the marginal products of these inputs in the production of A and B. Substituting MP_x^A for $\frac{\partial f_a}{\partial x_a}$ and MP_y^A ,

MP_x^B , MP_y^B for the similar expressions in y_a , x_b and y_b , yields

$$MP_x^A = -\lambda_2 ; MP_y^A = -\lambda_3 ; MP_x^B = -\frac{\lambda_2}{\lambda_1} ; MP_y^B = -\frac{\lambda_3}{\lambda_1}$$

and, by division

$$\frac{MP_x^A}{MP_y^A} = \frac{MP_x^B}{MP_y^B} = \frac{\lambda_2}{\lambda_3} \quad (I)$$

We see that the condition for the maximization of A subject to given, fully employed resources and a given production of B, is that the ratio of the marginal products of the two factors is the same in the production of A as it is in the production of B. But if the combined production of A and B has been maximized subject to given, fully employed resources, this implies that no more of A or B can be produced without a reduction in the production of B or A. In other words the condition just deduced is the necessary and sufficient first-order condition for technical efficiency.

3. We may note, however, that, just as full employment is a necessary but not sufficient condition for efficiency, so the equality of the ratios of marginal factor products is, by itself, a necessary but not sufficient condition for technical efficiency. This may be shown as follows.

Assume within the previous framework that the proportions of x and y used in the production of both A and B are fixed but the same, and that this proportion is smaller than the ratio of the economy's factor endowments. Coefficients α and β show that x and y are used in the same, fixed proportions in both productions.

In this case the system is $A = f_a(\alpha x_a, \beta y_a)$

$$B = f_b(\alpha x_b, \beta y_b)$$

$$\frac{x_a + x_b}{y_a + y_b} \begin{cases} X^* \\ Y^* \end{cases}$$

The proportions of x and y required to produce A and B are the same by assumption. The marginal rate of substitution between the two factors and its reciprocal the ratio of their marginal products must therefore be identical in the two industries. But although the combined production of A and B may employ the total quantity of x , X^* , it cannot, by assumption, employ the total quantity of y , Y^* . Or vice-versa. Full employment cannot be achieved and production, therefore, cannot be efficient.

The Conditions of Economic Efficiency

1. Economic efficiency requires that the allocation of factors be such that no more of one good can be produced without reducing the production of another, and that the allocation of products be such that no consumer can be made better off without another consumer being made worse off. For the latter condition to be fulfilled the marginal cost of any good must be equal to its marginal value and the marginal value of any given good must be the same for all consumers. Thus, assuming full employment, the necessary and sufficient first-order condition for economic efficiency, considering only production and consumption, may be expressed

$$\frac{MK_A}{MK_B} = \frac{MV_A}{MV_B} \quad (II)$$

where MK stands for the marginal cost of a product in terms of the economy's real resources, and MV for the marginal value of a product to any consumer.

2. MK_A , the marginal cost of A in terms of the economy's real resources is the input of x or of y required to produce an additional unit of A . MK_B , the marginal real cost of B is the input of x or of y required to produce an additional unit of B . Substituting in the above expression we therefore have

$$\frac{MI_x^A}{MI_x^B} = \frac{MI_y^A}{MI_y^B} = \frac{MV_A}{MV_B}$$

where MI stands for marginal input. As the marginal product of a factor is the reciprocal of its marginal input,

$$\begin{aligned} \frac{MP_x^B}{MP_x^A} &= \frac{MP_y^B}{MP_y^A} = \frac{MV_A}{MV_B} \\ \text{and} \quad \frac{MP_x^A}{MP_y^A} &= \frac{MP_x^B}{MP_y^B} = \frac{MV_A}{MV_B} \end{aligned}$$

so that, assuming full employment, the left-hand term of equation (II) expresses the first-order condition for technical efficiency.

3. If condition (II) is not fulfilled and $MK_A > MV_A$, for instance, the welfare of the community can be increased by reducing the production of A until $MK_A = MV_A$. If MV_A is nil, the welfare of the economy will be increased by abandoning the production of A and channelling resources into some other line of production. But, if $MK_B < MV_B$, the welfare of the community can be increased by raising the production of B to the point where its marginal cost is equal to the marginal value of B. If condition (II) is not fulfilled because MV_A or MV_B is not identical for all consumers, on the other hand, the welfare of the community can be increased by reallocating products between consumers.

4. Note that the consumers referred to in the definition of economic efficiency may be individuals with different personal tastes as is typically assumed in textbooks on consumer theory. Or they may be individuals spontaneously expressing collective preferences. Or, again, they may consist of a group of planners imposing their 'planners' preferences upon the economy. In other words, the concept of economic efficiency is not confined to economies in which welfare is defined traditionally in terms of individual well-being, but applies equally to economies in which the term welfare has a different content. To the extent that consumers with collective preferences or planners act as a single unit, economic efficiency must then simply be redefined as the situation in which resources are so allocated that this 'single' consumer cannot be made better off.

Externalities and the Efficiency Conditions

So far, we have assumed away all external, or neighbourhood, effects. We do not introduce them and consider in what way their presence alters the efficiency conditions.

1. Externalities exist when the action of one economic agent affects another economic agent. The externality may be beneficial to the agent affected, in which case it is an external economy. Or it may be detrimental to the affected agent, in which case it is an external diseconomy.

Externalities are transmitted directly or through the market. We have so far eschewed an analysis in money terms and so, for the time being, consider only the first. External effects may, moreover, be of production or of consumption.

External effects are of production if the benefit bestowed or loss inflicted on the second economic agent is due to the production of the first. Production externalities may be either output or factor-engendered. They are output-engendered if the output of one firm is dependent on the output of a second, as in Meade's example of the bee-keeper's bees feeding freely on the apple-grower's apple blossom, or of afforestation (the production of trees) increasing rainfall and hence the production of wheat. ^{4/} Production externalities are factor-engendered if the production of one firm depends on one or more inputs of a second firm. There would be a factor-engendered external economy of production, for instance, if the working population as a whole became eager for change and open to new ideas as the result of the employment of skilled immigrants in a given enterprise. There would be a factor-engendered diseconomy of production, on the other hand, if the use of coal instead of electricity for railway transport caused air pollution and so increased the cost of other products.

It follows from the definitions of output and factor-engendered external effects that, where they are factor-engendered and all factors generate economies with equal intensity, the distinction between the two types of externality vanishes. ^{5/}

External effects are of consumption if the benefit bestowed or loss inflicted upon the second economic agent occurs as a result of the consumption of the first. If, for instance, the consumption of medical attention by individuals improves the health of the population as a whole, there is an external economy attached to the consumption of medical services.

It is apparent from our examples of external effects in production and consumption that there is a divergence between the marginal private and social cost, or the marginal private and social value, of the activities to which externalities are attached.

Finally, it is worth noting that if all production is undertaken by one unit, and all consumption by a single consumer, externalities are internalized and vanish. To take but one instance, if the apple-grower and bee-keeper amalgamate, apple-blossom will no longer constitute free bee-food. For the bee-keeper himself will now produce the blossom.

2. Turn now to the effect of product-generated externalities on technical efficiency and assume that A affects the production of B, and hence the factors employed in the production of B with equal intensity. The production functions can then be written

$$\begin{aligned} A &= f_a(x_a, y_a) \\ B &= f_b(x_b, y_b, A) \end{aligned}$$

and, given full employment, the first-order efficiency condition, assuming that B benefits from an external economy generated by the production of A, ^{6/}

$$\frac{MP_x^A}{MP_y^A} = \frac{(MP_x^B - MP_A^B \cdot MP_x^A)}{(MP_y^B - MP_A^B \cdot MP_y^A)} \quad (III)$$

A plus sign replaces the minus sign if B suffers from an external dis-economy.

If the product-generated external economy flows not from industry A to industry B, but from every firm in industry A to every other firm in industry A, then the condition for the efficient allocation of factors between any two firms could, with appropriate changes in notation, be written as above except that the left-hand term would have to be modified in the same way as the right-hand term to take account of the externality flowing from firm 2 (B in the above formulation) to firm 1 (A in the above formulation).

3. Next consider the effect of a factor-generated externality on the condition for technical efficiency assuming that the employment of factor x in A confers a benefit on B. In this case the production functions may be written

$$\begin{aligned} A &= f_a(x_a, y_a) \\ B &= f_b(x_b, y_b, x_a) \end{aligned}$$

where x_a in the production function of B expresses the fact that the production of B is dependent on an A-input. Then, always assuming full employment, the first-order efficiency condition may be written

$$\frac{MP_x^A}{MP_y^A} = \frac{MP_x^B}{MP_y^B} - \frac{MP_{xA}^B}{MP_y^B} \quad (IV)$$

where MP_{xA}^B is the marginal product in the production of B of x used in the production of A.

Again, if the externality were a diseconomy the minus sign would be replaced by a plus sign.

And, again, if the externality occurred within one of the industries, say A, instead of between two industries, the efficiency condition would be written in the same way, with appropriate changes in notation, except that the left-hand term would have to be modified to take account of the externalities flowing from firm 2 to firm 1.

4. The first-order condition of economic efficiency must also be modified in the presence of externalities. Thus MK, given output or fact-engendered external effects, will no longer have the same content as it did when we abstracted from them. This will be apparent if condition II, as well as its development, are compared to equations III and IV.

Moreover, the first-order condition of economic efficiency will require additional modification if consumption externalities are present. Thus if economies are attached to the consumption of two products A and B, their marginal cost must be equated to the marginal value of the two products to their consumers (or marginal private value) plus their marginal value to the economic agents benefiting from the external economies, in other words to their marginal social value. Assuming full employment, the first-order condition for economic efficiency may then be written

$$\frac{MK_A}{MK_B} = \frac{MV_{Ap}}{MV_{Bp}} + \frac{MV_{Ae}}{MV_{Be}} \quad (V)$$

where MV_p is marginal private value, MV_e the marginal value of the external economy, and $MV_p + MV_e$ is marginal social value.

And if the externality is an external diseconomy of consumption the plus sign is replaced by a minus sign.

Conclusion

Technical efficiency requires full employment and an allocation of factors such that no more of one good may be produced without a reduction in the production of another. Economic efficiency, in terms only of production and consumption, requires technical efficiency and an allocation of products such that no consumer may be made better off without another consumer being made worse off. The two situations thus imply the elimination of waste in production or in production and consumption : the efficient is the wasteless situation.

These statements remain true whether externalities are present or not, although, in their presence, the conditions of efficiency must be differently expressed. We also note that external effects vanish if all production is undertaken by a single enterprise, and all consumption by a single consumer.

II. THE FREE MARKET ECONOMY AND EFFICIENCY

Definitions

We now suppose that the economy which we are considering chooses to adopt a system of free market allocation which we define as a system in which the market alone, that is the transactions between buyers and sellers, allocates resources. In other words we exclude all government intervention, and this implies on the production side that enterprises must be financially independent, that they must earn a profit. Another term for the free market might be the pure market.

Our next step is to enquire whether it can achieve efficiency and, if so, under what conditions. The short answer to the first part of the question is that it can achieve efficiency if the free market is perfectly competitive and, since the demonstration that this is so appears in every textbook, we shall do no more than recall it. Again we assume that the second-order conditions are fulfilled, that employment is full and, initially, that externalities are absent.

Technical Efficiency

1. Suppose, as before, that the economy is endowed with two factors x and y used in the production of two products A and B . Introduce the perfectly competitive firm which is defined as one which faces a given price, the same faced by all its competitors in every factor and product market, and which is assumed to be perfectly informed, to have perfect foresight. Assume further that it maximizes profits.

Suppose that the firm's management applies this principle in the markets for factors, whose use in every case is taken to be subject to diminishing returns. It therefore equates the given price of a factor, and hence its cost to the firm, to the marginal revenue which it yields, and which is equal to the marginal product of the factor multiplied by the given price of the product. The perfectly competitive firms using factors x and y in the production of A thus employ them to the point where

$$p_x = MP_x^A P_A \quad (1)$$

$$p_y = MP_y^A P_A \quad (2)$$

p_x and p_y being the prices of factors x and y , MP_x^A and MP_y^A the marginal products of x and y in the production of A and P_A the price of product A .

Similarly, the perfectly competitive firms supplying B will employ x and y to the point where

$$p_x = MP_x^B P_B \quad (3)$$

$$p_y = MP_y^B P_B \quad (4)$$

MP_x^B and MP_y^B being the marginal products of x and y in the production of B , and P_B the price of product B .

But if the marginal revenue obtained by employing x in the production of A is equal to p_x and the marginal revenue obtained by employing x in the production of B is also equal to p_x , the marginal revenue of x in the production of A must be equal to its marginal revenue in the production of B. Thus

$$MP_x^A P_A = MP_x^B P_B \quad (5)$$

The same being true of the marginal revenue of y in the production of the two goods, we also have

$$MP_y^A P_A = MP_y^B P_B \quad (6)$$

and dividing (5) by (6)

$$\frac{MP_x^A}{MP_y^A} = \frac{MP_x^B}{MP_y^B}$$

or the first-order condition for technical efficiency.

Economic Efficiency

1. Next turn to the product market, and assume that production is subject to increasing cost. The application of the principle of profit maximization to this market leads the perfectly competitive firm to equate the marginal cost of production to the given price, and hence marginal revenue, of production. Thus the firms producing A will equate

$$MC_A = P_A \quad (7)$$

where MC_A is the marginal cost of A in money terms and P_A the price of A, and the firms producing B will equate

$$MC_B = P_B \quad (8)$$

where MC_B is the marginal cost of B in money terms and P_B the price of B.

2. Then consider the perfectly competitive consumer who faces given prices which are the same as those faced by all his competitors in the product markets, and who is assumed to be perfectly informed and foresighted and to consume subject to the diminishing marginal value of the product consumed. He also maximizes satisfaction which under these conditions leads him to equate the price of a product, or its cost to him, to its marginal value. Consuming A and B, he therefore acts so that

$$P_A = MV_A \quad (9)$$

$$P_B = MV_B \quad (10)$$

where MV denotes marginal value.

Combining (8) and (10) to obtain

$$MC_A = P_A = MV_A \quad (11)$$

and (9) and (11) to obtain

$$MC_B = P_B = MV_B \quad (12)$$

and, dividing (12) by (13), we have

$$\frac{MC_A}{MC_B} = \frac{P_A}{P_B} = \frac{MV_A}{MV_B} \quad (13)$$

MC_A , for the perfectly competitive firm, is $p_x MI_x^A$ or $p_y MI_y^A$ where p_x and p_y are given. MC_B , in turn, is $p_x MI_x^B$ or $p_y MI_y^B$. Thus

$$\begin{aligned} \frac{MC_A}{MC_B} &= \frac{p_x MI_x^A}{p_x MI_x^B} = \frac{p_y MI_y^A}{p_y MI_y^B} \\ \frac{MI_x^A}{MI_x^B} &= \frac{MI_y^A}{MI_y^B} = \frac{MK_A}{MK_B} \end{aligned}$$

Equation (13) is therefore the formulation, in monetary terms, of equation (II), that is the first-order condition for economic efficiency.

It must be emphasized, however, that while perfect competition enables the economy to fulfil conditions (5), (6) and (13), it does not necessarily enable it to maintain full employment and thus to achieve efficiency. For perfect competition is compatible with the situation described in I. B. 3. We conclude, therefore, that perfect competition will enable the economy to achieve efficiency only if full employment is simultaneously ensured.

Externalities

The next question to be considered is whether perfect competition will enable the pure market economy to attain efficiency in the presence of externalities. The answer is that it will not for each individual producer and consumer will equate marginal private cost or value, instead of marginal social cost and value, to price.

1. Take output-engendered external economies. By acting as perfect competitors in the factor markets, producers will ensure (see II. B) that

$$\frac{MP_x^A}{MP_y^A} = \frac{MP_x^B}{MP_y^B}$$

and hence that condition (III) in I. D is satisfied. Technical efficiency will thus be achieved. Economic efficiency, on the other hand, will not, for the perfectly competitive producers will produce so that

$$\frac{P_A}{P_B} = \frac{MC_A}{MC_B} = \frac{MP_x^B}{MP_x^A}$$

whereas it follows from (III) in I. that efficiency requires that

$$\frac{P_A}{P_B} = \frac{MP_x^B}{MP_x^A} - MP_A^B \quad 7/$$

2. Next, consider factor-engendered externalities. Here it is clear that the perfectly competitive producers acting so as to equate price to marginal value in factor markets will not satisfy condition (IV) of I.D. Nor will they act efficiently in the product markets since they will produce so that

$$\frac{P_A}{P_B} = \frac{MP_x^B}{MP_x^A}$$

whereas efficiency requires that

$$\frac{P_A}{P_B} = \frac{MP_x^B}{MP_x^A} - \frac{MP_{xA}^B}{MP_x^A}$$

3. Third, consider consumption externalities and assume that the consumption of product A confers an external economy upon the community at large. The perfectly competitive consumer in a perfectly competitive economy equates MV_{Ap} to P_A which in turn is equal to MC_A . But the value of A to the community is $MV_{Ap} + MV_{Ae}$, the marginal social value of the product. When the consumer has maximized his private satisfaction by equating MV_{Ap} to P_A , the marginal social value of A exceeds its price and marginal cost. Condition (V) of I.D is not fulfilled and the welfare of the community can therefore be raised by increasing the consumption of A to the point where its marginal social value is equal to its marginal cost. If, on the other hand, the consumption of A inflicts a diseconomy on the community, the behaviour of the consumer equating marginal private value to price and marginal cost creates a situation in which marginal social cost is inferior to price and marginal cost. The welfare of the community can therefore be raised by cutting back the consumption of A to the point where its marginal social value is equal to its marginal cost.

4. Finally, since we have introduced money into our analysis, the existence of externalities transmitted through the market, or pecuniary externalities must be mentioned though, as we shall see, not retained as an object of analysis.

There are two cases of interest. The first occurs when an industry uses a large part of the supply of a factor so that as the industry expands, the price of a factor rises creating a pecuniary external diseconomy. The second occurs where the expansion of industry A lowers the price of product A which

is used as an input in industry B. This confers an external benefit on B. But, while noting that external effects are clearly present in such cases, we need concern ourselves with them no further. For in contrast to direct effects, they cause changes in prices which signal their presence to producers and consumers and ensure that their analysis is included in the analysis of market behaviour. In what follows, therefore, our references to external effects will be to direct external effects only.

Conclusion

A free, or pure, market economy can achieve efficiency under perfect competition, that is given sufficiently numerous buyers and sellers, producers' and consumers' perfect information and foresight, the increasing cost of production and the diminishing marginal value of consumption, and two conditions which have been implicit in our analysis, namely the homogeneity of factors and products and free entry into any industry. An absence of any of these, that is imperfect competition, will remove the necessary conditions for efficiency. But, even in their presence, the existence of externalities will mean that efficiency will not be attained. The free market, therefore, achieves efficiency only under very restrictive conditions.

III. CENTRAL ALLOCATION AND EFFICIENCY

Definitions

We have discussed efficiency in a free, or pure, market economy in which no government intervened. We now go to the other extreme and assume an economy in which a central authority allocates resources. In such a system, enterprises need no longer be financially independent, they need not, in other words, earn a profit.

The central authority may allocate resources directly, distributing production and factors to enterprises and goods to consumers, or indirectly by setting prices which are then taken as given by producers and consumers whose transactions distribute products and factors. Central allocation, in other words, embraces not only direct allocation but also the centrally regulated market.

In order to assess the relative values of products and factors, which will no longer be determined by free market forces, the central authority can, in turn, resort to two methods of evaluation. It may compute all product and factor prices. Or it may set prices and then adjust them to correct market disequilibria. The first method will be referred to as central computation, the second as central adjustment.

We may thus distinguish four forms of central allocation. First, the government may choose to calculate all prices and to allocate resources directly on the basis of these prices. We refer to this as centrally computed direct allocation. Second, it may calculate and set all prices but leave the allocation of resources to producers and consumers who take the centrally set prices as given. We refer to this as centrally computed indirect allocation. Third, it may choose to set prices, adjust them in response to excess demand and supply and directly allocate on the basis of these set prices. This we refer to as centrally adjusted direct allocation. Fourth, it may choose to set and adjust prices, leaving the allocation of resources to the firms and consumers who take the centrally set prices as given. We refer to this system as centrally adjusted indirect allocation. Whichever the type of government intervention, however, it will perform a function which, previously, we assumed to be performed entirely by the market.

Efficiency

1. The question which we must then answer is whether a system of centralized or State allocation can achieve efficiency. The answer is that it can as has been demonstrated by Barone, Lange and Lerner. ^{8/} We assume the same economy as we did when considering the free market and suppose the second-order conditions to be satisfied, employment to be full and, initially, an absence of externalities.

To achieve efficiency, the government has only to fulfil conditions (1) and (2). It may do so by allocating factors and products directly in such a way that the conditions are satisfied, or it may do so indirectly by publishing the appropriate prices and requiring producers and consumers to take them as given. In the first case, price-relatives need to be calculated or adjusted, but since no

exchange takes place between individual economic agents, money and therefore money prices are unnecessary. In the second, since exchange does take place between producers and consumers, money and therefore money prices are necessary. The process of achieving efficiency under direct allocation may therefore be conceived of as satisfying conditions (I) and (II), whereas, under indirect allocation, it may be conceived of as satisfying conditions (5), (6) and (13) and, through them, (I) and (II).

2. Conditions (I) and (II) can be fulfilled whether production costs are increasing, constant or decreasing. But while the presence of constant or decreasing costs will be no obstacle to efficiency if resources are allocated directly, its achievement under indirect allocation requires the introduction of a rule. For if individual producers act independently and choose to maximize profits, the existence of constant or decreasing costs leads them to equate marginal cost to marginal revenue, instead of to price and marginal value.

The appropriate rule is 'marginal cost pricing', or Lerner's Rule, which was put forward during the nineteen-thirties by both Lange and Lerner. ^{9/} It requires each producer to equate marginal cost to price, but both authors are careful to stipulate that this will lead to efficiency only if, in the factor markets, each producer acts so as to equate a given factor price to the value of its marginal product, in other words so as to achieve technical efficiency, or condition (I). Provided marginal cost pricing is interpreted in this way and, additionally, marginal value is equal to price, the Rule clearly results in economic efficiency.

But the difficulty with it is that its application causes losses for the firms producing subject to decreasing cost. For if costs are decreasing, marginal cost lies below average cost. If, therefore, price is equated to marginal cost, total revenue falls short of total cost. In a free market, the losses of firms producing subject to decreasing cost would preclude the adoption of a principle such as marginal cost pricing. But given the existence of a central authority, it can be introduced provided the authority takes these losses upon itself. It must, therefore, either itself operate and finance the enterprises operating subject to decreasing cost, or make lump sum transfers, that is pay subsidies, in their favour. Provided it does either of these, the centrally allocated economy will be able to achieve efficiency under increasing, constant or decreasing cost, whether allocation is direct or indirect.

3. We now turn to externalities. We noted in Part I that these would disappear if all production were undertaken by one producer, and all consumption by one consumer. Since this is what occurs in a system of direct central allocation, it follows that under such a system externalities will be eliminated.

Under central indirect allocation, on the other hand, externalities reappear since allocation is undertaken by individual producers and consumers who consider only private marginal cost and value. But, in this case, the central authorities can intervene to eliminate the waste resulting from the presence of externalities, for they can set prices which reflect social values and so induce producers and consumers to equate marginal social cost to marginal social value. Where a given industry confers a product-engendered external economy

on another industry, for instance, the central authorities can raise the price of the product of the first industry to include the value of the external benefit it bestows, and it can lower the price of the product of the second industry thus taxing it for the free input which it employs. In other words, under central allocation, an economy can achieve efficiency even in the presence of externalities.

4. More generally, central intervention will enable an economy which has chosen central allocation to achieve efficiency in the absence of any of the conditions which were necessary for it in the free market.

The Cost of Efficiency

Definition

There is a cost attached to such intervention, however. To identify it compare the economy under central allocation and under a pure market system in conditions which make the institutional framework the only feature distinguishing the two situations. This will be the case if the economy can either achieve efficiency under both systems, or the same degree of inefficiency under both systems. Since efficiency is more precisely defined than 'the same degree of inefficiency', we shall consider the situation in which the economy can achieve efficiency under both systems. In the free market efficiency requires perfect competition and an absence of externalities ; under central allocation, it requires that the central authority be endowed with one of the attributes of the perfect competitor, namely perfect knowledge of the present and the future.

In the free market, under perfect competition and an absence of externalities, the efficient solution will result automatically from the activities of producers and consumers maximizing profit and satisfaction subject to given prices. It will require no action on their part which is additional to their activity as producers and consumers. A price adjustment, for instance, will be the natural consequence of the producers' and consumers' production and consumption decisions and will require neither a particular decision nor any particular intervention on their part.

Under central adjustment, the central authority by adjusting and setting prices will reproduce the market mechanism described above. Under central computation it will calculate the efficient solution and then set prices. But in both cases, in contrast to the market system, allocation and prices will no longer be determined by producers and consumers in the course of their production and consumption. Instead, allocation and prices will be determined by a special body of men, and in the case of computation, of men and machines, whose sole occupation will be that of adjusting, or computing, and setting, prices until the efficient situation is reached. Thus resources which under the pure market system would have been devoted to production will, under central allocation, be devoted to the administration of price changes. Under central direct allocation, moreover, the quantity of resources required for this purpose will be increased by the amount of men and materials needed to issue orders for the movement of factors and products.

There is, therefore, a cost attached to central allocation which is not attached to the free market. Formally, if the system of equations describing the production relations of a market economy endowed with fixed amounts X^* and Y^* of two factors x and y used in the manufacture of two products A and B is

$$\begin{array}{rcl} A & = & f_a(x_a, y_a) \\ B & = & f_b(x_b, y_b) \\ x_a + x_b & = & X^* \\ y_a + y_b & = & Y^*, \end{array}$$

then the corresponding system for the same economy resorting to the State allocation of resources will be

$$\begin{array}{rcl} A & = & f_a(x_{ac}, y_{ac}) \\ B & = & f_b(x_{bc}, y_{bc}) \\ x_{ac} + x_{bc} & = & X^* \\ y_{ac} + y_{bc} & = & Y^* \end{array}$$

where

$$\begin{array}{ll} x_{ac} > x_a & \text{by the amount of } x \text{ required for the central allocation of} \\ & \text{the resources needed to produce a unit of } A, \\ y_{ac} > y_a & \text{by the amount of } y \text{ required for the central allocation of} \\ & \text{the resources needed to produce a unit of } A, \\ x_{bc} > x_b & \text{by the amount of } x \text{ required for the central allocation of} \\ & \text{the resources needed to produce a unit of } B, \\ y_{bc} > y_b & \text{by the amount of } y \text{ required for the central allocation of} \\ & \text{the resources needed to produce a unit of } B. \end{array}$$

It follows that, as compared to an efficient free market system, central allocation will always be inefficient. This proposition holds, moreover, not only in the case of static efficiency, but also given the assumption of perfect foresight under the two systems, in the case of dynamic efficiency as well.

Within its own framework, however, central allocation will only be inefficient assuming full employment and the fulfilment of conditions (I) and (II), if the resources devoted to administration exceed the minimum required for any given level of production. We shall refer to this minimum cost of production under central allocation as C . Given C , full employment, the correction of external effects and conditions (I) and (II), we may speak of efficient central allocation.

Size

1. The value of C will vary under the four systems. To see this assume that they are all efficient although, as previously noted, an acceptable alternative postulate would be that they were all equally inefficient.

Direct allocation will, first, be more expensive than indirect allocation. This follows from the fact that with the former method of allocation, a good sent from firm 1 to firm 2 requires prior authorization from the centre. Under indirect allocation this cost is eliminated. Computation may also be more ex-

pensive than central adjustment. For the latter only requires central officials to adjust and set prices whereas the former requires them to calculate price adjustments before making them. Centrally computed direct allocation is therefore more expensive than centrally computed indirect allocation. Centrally adjusted direct allocation is more expensive than centrally adjusted indirect allocation. And centrally computed direct allocation may also be the most expensive system of central allocation.

2. Assuming that central allocation is not subject to increasing returns to scale, and there is nothing to suggest that it is, the value of C will, furthermore, vary directly with the number of markets in the economy, that is with the number of final products and of inputs. Moreover, it will vary directly with the number of processes of transformation. This may be seen from the following example.

Suppose that furniture can be produced with one material, wood, or with four materials, wood, leather, metal and plastic. To simplify the argument without affecting its generality, suppose also that furniture consists of one model of chair and that apart from homogeneous labour and materials there are no other inputs. It follows that if furniture is made of wood only, the centre will have to set the price of furniture, the price of wood and the price of labour and that, if it chooses direct allocation, it will additionally have to issue directives for the distribution of furniture, the allocation of wood and the employment of labour. If, on the other hand, the same amount of furniture is made of wood, leather, metal and plastic, the centre will have to set the prices of wooden chairs, leather chairs, metal chairs and plastic chairs, which will be different as they are different commodities. It will have to set the prices of wood, leather, metal, plastic and of labour. And finally, if it chooses direct allocation, it will have to issue directives for the distribution of the four kinds of chair, for the allocation of the four kinds of material, and for the employment of labour. The increase in the number of processes of transformation will, therefore, have increased the amount of central allocation and so the level of C .

3. The preceding analysis implies that the value of C will be greater if the country resorts to foreign trade than if it does without it. For, in the first place, trade may increase the number of products which the centre has to deal with : even if it leads to the specialization of production, it may result in the diversification of consumption. In the second place, even though it may not increase the number of products, it will always increase the number of variables the centre has to work with : foreign as well as domestic demand and supply will have to be considered for every traded good. In the third place, trade will increase the number of processes of transformation : in an open economy furniture may be produced not only out of wood, leather, metal and plastic, but also by the export of oranges. For trade itself is a process of transformation.

Conclusion

Under central allocation, an economy can achieve efficiency under increasing, constant or decreasing costs and in the presence of externalities. More generally, central intervention enables an economy to attain efficiency in the absence of the conditions which were necessary for it in the free market. A centrally allocated economy can therefore be efficient under less restrictive conditions than the free, or pure, market.

But there is a cost attached to central intervention which is not attached to the free market. It is the cost of taking decisions at the centre concerning action at the periphery and of controlling their execution. Central allocation must therefore always be inefficient as compared to efficient free market allocation.

The cost of central allocation depends on the form such allocation takes and will be greater in the case of central direct than of central indirect allocation. The cost of a centrally allocated system is likely, moreover, to vary directly with the complexity of the economy, and to be greater in an open than in a closed economy.

IV. THE FREE MARKET VERSUS CENTRAL ALLOCATION

Having analysed efficiency in a free, or pure, market system and under central allocation we now consider the relative merits of the two for the economy which can choose one or the other.

1. If the economy can achieve efficiency under either system, then, clearly, it should choose the free market rather than central allocation. For, by doing so, it will avoid the cost of central allocation and maximize production.

2. If the economy can achieve efficiency under central allocation but not under a free market system, its adoption of one system or the other will depend on the cost of central allocation as compared to the cost of an inefficient market system. The cost of an inefficient market system is the cost of unemployment, imperfect competition or of the presence of externalities, and we shall refer to it as I. We can say, therefore, that perfect central allocation will or will not be preferable to imperfect competition according as to whether

$$C < \text{ or } > I.$$

We see, therefore, that if we take the cost of central allocation into account, we cannot say that efficient central allocation will necessarily be preferable to an inefficient market.

3. If, finally, the economy can achieve efficiency under neither system, then its option in favour of one or the other will depend on the cost of inefficient central allocation as compared to the cost of an inefficient market. If we refer to the waste attached to inefficient central allocation as W, then we may say that inefficient central allocation will or will not be preferable to an imperfect market according as to whether

$$C + W < \text{ or } > I.$$

But, if the degree of inefficiency under either system is the same, that is if $W = I$, then it is clear that the economy should choose the inefficient market.

Conclusion

For a country deciding whether to choose between the free market and central allocation, the free market will be preferable to central allocation if it is efficient, or if it is as inefficient as central allocation. Central allocation will be preferable to the free market only if the free market is inefficient, but it will not necessarily be so.

V. GENERAL CONCLUSIONS

The choice just discussed is obviously unrealistic, for no country would dream of adopting the free market today. But the consideration of an extreme case has enabled us to make a clear-cut comparison of the conditions of efficiency in a free market and a centrally allocated economy, and to define unambiguously the differences which divide them. Furthermore, it enables us to draw conclusions which are applicable to the less thoroughbred systems likely to be chosen in practice. For it follows from our analysis that :

1. the socialist prejudice in favour of central allocation cannot be justified on the basis of efficiency ; as we have shown, there is a presumption in favour of the free market in so far as efficiency is concerned ; the socialist prejudice in favour of central allocation must therefore be justified on other grounds ;
2. on the other hand, although there is a presumption in favour of the free market for efficiency purposes, the liberal view according to which the free market is the ideal and should always be given a try is not justifiable either ; for, as we have shown, inefficient central allocation may be less wasteful than an inefficient free market ;
3. the Western 'mixed economy' is a link in the chain of systems joining the free market to central allocation ; for in such economies the central authorities not only determine internal and external equilibrium, but also set prices and even occasionally resort to the direct allocation of resources ; there is therefore a C attached to the running of the Western economies ; at the same time, central intervention enables them to correct certain inefficiencies of the free market ;
4. if efficiency is the objective, the more complex an economy and the more it will tend to move away from central allocation towards the market, thereby releasing resources from administration into production ;
5. as trade increases the complexity of an economy, the more trade-dependent an economy and the more, if efficiency is the issue, it will tend to move away from central allocation towards the market ; this latter conclusion finds confirmation in the evolution of the economic systems of Eastern Europe today ;
6. but, as trade increases the complexity of an economy and hence the burden of central allocation, there will be a bias against trade in centrally allocated systems ; this conclusion finds support in the low trade dependence of the centrally allocated Communist economies.

NOTES

- 1/ The distinction between ownership and allocation is well made in WILES, Peter J.D. : The Political Economy of Communism, Oxford, Basil Blackwell, 1962, Chapters 1 and 4.
- 2/ HAYEK, F. von : "Socialist Calculation : The Competitive Solution", Economica, May 1940 ; LANGE, O. and TAYLOR, F.M. : On the Economic Theory of Socialism, Ed. B.E. Lippincott, Minneapolis, University of Minnesota Press, 1938 ; LERNER, A.P. : The Economics of Control, Principles of Welfare Economics, New York, The Macmillan Company, 1944 ; MISES, L. von : Socialism : An Economic and Sociological Analysis, New Haven, Yale University Press, 1951.
- 3/ See, for instance, BAUMOL, William J. : Economic Theory and Operations Analysis, Englewood Cliffs, Prentice-Hall Inc., 1965, Second Edition, Chapter 16.
- 4/ MEADE, James E. : "External Economies and Diseconomies in a Competitive Situation", Economic Journal, March 1952.
- 5/ KEMP, Murray C. : The Pure Theory of International Trade, Englewood Cliffs, Prentice-Hall Inc., 1964, Chapter 8.
- 6/ The following two conditions are adapted from KEMP, pp. 128-9.
- 7/ KEMP, p. 128, for both the following demonstrations.
- 8/ BARONE, E. : "Il ministero della produzione nello stato collettivista", Giornale degli economisti, 1908. Reprinted as the Ministry of Production in a Collectivist State. In F.A. von Hayek (Ed.) : Collectivist Economic Planning, London, George Routledge and Son, 1935. LANGE and TAYLOR ; LERNER.
- 9/ LANGE and TAYLOR, p. 64 ; LERNER, p. 99.

APPENDIX IIENTERPRISE INDEPENDENCE AND PROFIT MAXIMIZATION
IN EASTERN EUROPESOME EXAMPLES

(In keeping with the rest of the chapter, we assume that there is no foreign trade and, therefore, that the enterprise produces only for the home market.)

1. The continued lack of independence of the Soviet enterprise may be shown as follows. C stands for total cost, Q for quantity of output, W for wage fund, Y for total supply of material 1, Z for the total supply of material 2, x for labour, y for material 1, z for material 2, p_1 for wage, p_2 for the given price of y and p_3 for the given price of z . Asterisks denote given quantities. We choose calculus rather than linear programming for our analysis because the presence, in the Soviet system, of penalties for overshooting and undershooting targets show that these are not maximum or minimum limits but given values to be achieved.

The targets assigned to the enterprise are the level of production (determined by the sales target and the centrally set price), the total wage fund, and two material constraints, one of which stipulates the quantity of y , the other the value of z . As the enterprise cannot vary its output, and hence, given the centrally determined product price, its total revenue, we ask whether it can minimize its cost and vary its factor combination.

The problem of the enterprise is thus to

$$\begin{array}{ll}
 \text{Minimize} & C = p_1 x + p_2^* y + p_3^* z \\
 \text{Subject to} & f_q(x_q, y_q, z_q) = Q^* \\
 & p_1 x = W^* \\
 & y = Y^* \\
 & p_3^* z = Z^*
 \end{array}$$

It is at once apparent that the enterprise cannot minimize its cost, for there are as many constraints as there are variables and, therefore, there is only one possible value of C . Nor can it vary its factor combination.

2. The greater independence of the Polish enterprise is already apparent if we use the same example. From the list of targets and indicators handed down to it, p. 98, we see that it is subject to three mandatory targets and indicators, the profitability rate, the wage fund and the first or third production target. We assume it to be subject to the first production target, that is obliged to produce a given quantity of the commodity. It cannot, therefore, as it would in a decentralized economy, determine its output or, given the association-determined product price, its total revenue. Can it then vary total cost, hence profit, and its combination of factors? The answer

is that it cannot vary the first and the second, but that it can vary the third. That it cannot vary total cost and profit follows from the fact that its total cost is determined, given total revenue, by the rate of profitability (equation (3)).

This may be seen below, where C stands for total cost, Q for output, π for profitability rate, W for wage fund, P for the price of the commodity, x for the quantity of labour, y for material 1, z for material 2, p_1 for the wage, p_2 for the given price of y, p_3 for the given price of z, and asterisks denote given quantities.

$$\text{Minimize } C = p_1^x + p_2^*y + p_3^*z \quad (1)$$

$$\text{Subject to } Q^* = f_q(x_q, y_q, z_q) \quad (2)$$

$$\pi^* = \frac{P^*Q^* - (p_1^x + p_2^*y + p_3^*z)}{p_1^x + p_2^*y + p_3^*z} \quad (3)$$

$$W^* = p_1^x \quad (4)$$

As the quantities of x, y and z cannot be deduced from the list of constraints, however, the enterprise is in a position to vary these.

If we assume that the enterprise is a multiple product firm which we suppose to produce two products with the same three factors, the greater freedom of the Polish as compared to the Soviet enterprise is even more clear cut as may be seen below.

The production indicator in a multiple product firm is the average processing cost, excluding material costs and profits (equation (1)). Like the single product firm, the multiple product firm is also subject to the profitability rate (equation (2)) and the wage fund (equation (3)) targets. These constraints are shown below where in addition to the previous notation, a stands for a unit of the first good, and b for a unit of the second.

$$I^* = \frac{p_1(x_a + x_b)}{2} \quad (1)$$

$$\pi^* = \frac{(P_z^*Q_a + P_b^*Q_b) - [p_1(x_a + x_b) + p_2^*(y_a + y_b) + p_3^*(z_a + z_b)]}{p_1(x_a + x_b) + p_2^*(y_a + y_b) + p_3^*(z_a + z_b)} \quad (2)$$

$$W^* = p_1(x_a + x_b) \quad (3)$$

Equations (1) and (3) are not independent because the processing cost is labour cost.

With no output assignment, and no material assignments which imply an output target, the enterprise's output and total revenue are not determined. Without a given value for total revenue, total cost cannot be deduced from equation (2), that is the profitability rate and the wage fund. It follows that the enterprise is in a position to vary its output and to maximize profit. To maximize profit in this case need not mean that marginal costs will be

equal to price, however. For the constraints may mean that the rate of production is either lower or higher than required for this condition to be met. What it does imply is that profits must be positive.

3. The complete lack of independence of the Romanian firm, on the other hand, may be seen below. We assume the enterprise to be subject to the following targets : net production (equation (2)), the volume of deliveries to the home market (equation (3)), the supplies of the two materials, the first of which is stipulated in volume terms (equation (4)), and the other in value terms (equation (5)), the wage fund (equation (6)), the average wage (equation (7)) and costs per 100 lei of production (equation (8)). Initially we assume it also to be subject to centrally set factor and product prices. Since its production and sales are set for it, so is its total revenue. Can it then vary its total cost, hence profit, and its combination of factors ?

The problem of the enterprise may therefore be considered to be to

$$\text{Minimize} \quad C = p_1 x + p_2^* y + p_3^* z \quad (1)$$

$$\text{Subject to} \quad f_q(x_q, y_q, z_q) = Q^* \quad (2)$$

$$\alpha Q^* = V^* \quad (3)$$

$$y = Y^* \quad (4)$$

$$p_3^* z = Z^* \quad (5)$$

$$p_1 x = W^* \quad (6)$$

$$p_1 = p_1^* \quad (7)$$

$$\frac{p_1 x + p_2^* y + p_3^* z}{P^* Q^*} \cdot 100 \text{ lei} = L^* \quad (8)$$

where, in addition to the notation used in the Soviet and Polish examples, α is a factor, V^* the volume of deliveries to the home market, L^* is the cost per 100 lei of production.

Constraints (4), (5) and (6) are sufficient to determine total cost, hence profit, and with (2) also determine the quantity of each factor. The enterprise therefore has no independence whatsoever, and what is more directives (3), (7) and (8) are superfluous.

If, now, we assume that the enterprise is free to determine product prices which, within limits, is the ultimate aim of the reform, we see that this does not change the situation as far as total cost is concerned, for this will still be determined for it. Given equations (3) and (8), moreover, so will total revenue, profit and, what is more, price. The freedom to set the product price is therefore shown to be meaningless given the other constraints. The enterprise is as hamstrung as ever.

4. If now we turn to the radical reforms, the freedom of the Hungarian enterprise is striking. To show it, we assume the same enterprise as we did in the Soviet, Polish and Romanian cases, that is an enterprise producing one product with labour and two materials. The enterprise is not, like its conservative counterparts subject to production or sales targets, to any

cost directive, or to material input constraints. It is therefore free to vary output in search of profit maximization. As it does so its total cost varies so that we must now write cost as a function of production.

$$C = aQ + b \quad (1)$$

where C is cost and Q quantity and 'a' and 'b' are constants. This expression contrasts with most of our previous examples where output was constrained and we asked ourselves whether the enterprise could minimize its costs. Here cost is free to vary continuously with output.

As the enterprise's output varies, the quantity it puts on the market also varies and we shall suppose that this affects the market price and, hence, the quantity demanded. The enterprise is thus producing given a demand function for its product which we shall write

$$P = c - eQ \quad (2)$$

where P stands for the price of the good, Q for the quantity and c and e are constants. We use linear equations for simplicity's sake.

Given these supply and demand functions, is the enterprise in a position to maximize profit? To do so, it must maximize the difference between total revenue and total cost. Total revenue is PQ. So, from (2), we have

$$PQ = cQ - eQ^2$$

Profit then is

$$PQ - C = (cQ - eQ^2) - (aQ + b) \quad (3)$$

and to maximize it requires differentiating with respect to Q and setting the result equal to zero

$$\frac{dPQ}{dQ} - \frac{dC}{dQ} = 0$$

which states that marginal revenue must be equal to marginal cost. Since there is nothing to stop the Hungarian enterprise from fulfilling this condition, we conclude that it can maximize profits (though it need not if the second-order conditions are not fulfilled). Since, moreover,

$$\begin{aligned} \frac{dPQ}{dQ} - \frac{dC}{dQ} &= c - 2eQ - a = 0 \\ Q &= \frac{c - a}{2e} \end{aligned}$$

5. As stated in the text, the majority of the Czechoslovak enterprises under the reformed system should have been as free to maximize profit as their Hungarian counterparts. The requirement that, instead, they should aim at maximizing gross income, that is total revenue less material costs and depreciation meant, however, that the resulting allocation of resources was bound to be inefficient.

To show this, let us assume, as in the Hungarian example, that the enterprise produced subject to a cost function

$$C = aQ + b \quad (1)$$

and a demand function

$$P = c - eQ \quad (2)$$

Instead of attempting to maximize profits, $PQ - C$, however, the enterprise aims at maximizing gross income, or net value added, $PQ - (C - NW)$, where N is the number employed and W the wage-rate. We suppose that NW is also a function of Q and write

$$NW = fQ + g \quad (3)$$

Again we assume a linear equation for the sake of simplicity.

The enterprise wishing to maximize net value added, v_a , maximizes

$$v_a = PQ - (C - NW) = (cQ - eQ^2) - [aQ + b - (fQ + g)] \quad (4)$$

The first order condition for this to be true is that

$$\frac{d(PQ)}{dQ} - \frac{d(C - NW)}{dQ} = 0,$$

that is that marginal revenue should be equal to marginal cost minus marginal labour cost. But for the behaviour of the enterprises to be efficient in the product market requires that

$$P = \frac{d(PQ)}{dQ} = \frac{d(C)}{dQ}$$

where P is the price of the product. Given the gross income target, this is a condition which cannot be fulfilled. The maximization of gross income is therefore an economically irrational target.

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CHAPTER THREE

FOREIGN TRADE REFORM

I.

FOREIGN TRADE SYSTEMS AND CONTROL INSTRUMENTSWaste Avoidance or Efficiency Once Again

The choice open to the Eastern European authorities with respect to their foreign trade systems was the same as with respect to their economic systems in general. To reduce the inefficiency of their foreign transactions, they could avoid waste. Or they could create the conditions of efficient exchange, that is of a situation in which no additional unit of trade could increase the nation's real income. The first alternative required an improvement in planning and management and an end to the complete separation of production from trade. The second, given the efficiency of the domestic economy, required the abolition of equalization, and hence of autarkic pricing. It did not, as we show in Appendix I, require the elimination of protection or discrimination.^{1/} But, given the extent of both of these as compared to their justification,^{2/} it did require their reduction, and so a contraction in the number of effective exchange rates.

In practice, six out of the seven reforming countries have already opted for efficiency, the seventh is still engaged in waste avoidance.

Possible Systems for Efficient Exchange

To achieve foreign trade efficiency, the countries could, as in the case of the reform of their economic organization in general, choose between a number of systems. Thus, while decentralizing the rest of the economy, they could maintain the central direct allocation of trade : the authorities could compute or adjust the domestic prices of exports and imports, then determine the appropriate quantities of exports and imports and issue directives with respect to these ; and trade could be undertaken by manufacturers and consumers on the basis of these directives or, to simplify centralization, solely by government agencies. Alternatively, the central authorities could introduce central indirect allocation in the foreign trade sector : they could compute or adjust, then set the domestic prices of imports and exports and allow domestic producers and consumers, or perhaps specialist foreign trade intermediaries, to trade at will on the basis of these prices. Or the economic authorities could introduce a free market system, that is free trade, allowing the prices of traded goods to be determined in the market and transactions with foreign buyers and sellers to be undertaken by domestic producers, consumers or enterprises specializing in foreign trade. Finally, the system adopted for foreign trade could be a hybrid with, for instance, heavy industry and agriculture subject to central direct allocation and the remainder of trade to central indirect allocation. Any of these - and again not merely the free market - could under the appropriate conditions, ensure trade efficiency.

Probable Systems in Eastern Europe

However, for the same reasons as were advanced in the case of the economy in general, the probable choice for a socialist country in search of trade efficiency will be a hybrid system. For the impracticability of central computation and central adjustment rule out any form of central direct or indirect allocation ; while the restrictive conditions required for the efficiency of free trade, ^{3/} as well as its implications for income distribution, make this solution an unlikely one in practice. The reformed systems are also likely to be decentralized as compared to their predecessors : for the reasons which, we have suggested, are likely to lead authorities conscious of the cost of allocation to decentralize generally, apply equally to the foreign trade sector. Finally, we may predict, on the same grounds as were advanced in the case of the economy in general, that the trend towards decentralization will be the stronger the more sophisticated the foreign trade sector and the more trade-dependent the economy.

Trade Control

Trade control, to which we have briefly referred in classifying the foreign trade systems available to the reforming countries, will clearly differ according to the trade model, or combination of models, chosen. The target or directive, which is an order to trade a given quantity or value of a certain product or products, and which can therefore be introduced to restrict or expand trade, will be used for trade control in systems of central direct allocation. But targets for a class of commodities, as well as single commodity value targets, allow the trader some choice as to the level of trade : as they introduce an element of decentralization they will thus be used in systems which are in transition from central direct to central indirect allocation.

The ad valorem tariff and subsidy, or negative tariff, will, in turn, be used in systems of central indirect or of regulated market allocation. For the tariff restricts, and the subsidy expands, trade by setting the rate of divergence between domestic and foreign prices and allowing market forces to establish the quantities and values traded. It follows that the effect on trade of a devaluation of a given rate may be achieved by the imposition of a tariff of the same rate on all imports and of a subsidy of the same rate on all exports.

The third chief ^{4/} instrument of trade control, the quantitative restriction or quota, is perhaps more difficult to attribute to a given system. For, like the target, it is a direct intervention of the authorities to set the quantity or value of trade, and it would thus seem to be an instrument of central direct allocation though for restrictive purposes only, as its title indicates. But a monopolistically allocated quota will only limit, and not determine, the level of trade ^{5/} ; and, again in contrast to the target, a quota allocated on a perfectly competitive basis will cease to determine trade if prices change so that it ceases to be restrictive. So the quota is a device for the control of systems of indirect allocation, which, because it may limit trade administratively, nevertheless introduces an element of direct allocation absent from systems regulated only by taxation.

Instruments of trade control are thus a means of identifying foreign trade systems. Note, moreover, that any of the devices just discussed may be used to control not only private but also state trade. For, contrary to widespread belief, state-trading is not an instrument but an object of trade regulation. This is discussed in Appendix II, and is apparent if we suppose that state-trading enterprises are perfectly competitive. For then their equation of domestic to foreign prices will determine the level of trade, and its restriction or expansion below or beyond this level will take place only if the government intervenes by means of mandatory targets, quotas, or taxes and subsidies. The same, however, is also true if state-trading enterprises are monopolistic. For although they will then normally restrict trade, they will do so only to the level at which they maximize profits, and the regulation of trade short of or beyond this will again require the economic authorities to intervene by means of targets, quotas, and taxes or subsidies. Trade control, like the organization of resource allocation, is, in other words, distinct from the ownership of resources.

Trade Control and the Linking of Domestic and Foreign Prices

Any of the instruments just listed allows the elimination of equalization, that is the abandonment of autarkic pricing and the linking of domestic and foreign prices. But conditions under which this will occur will vary according to the instrument : in the case of some, the linking of domestic and foreign prices will require continuous central intervention, in the case of others it will be automatic, or partly so.

Not unexpectedly, the automaticity with which the link between domestic and foreign prices is maintained will tend to increase as the control of trade becomes more indirect. ^{6/} But this does not mean that all trade directives should be abolished before any automatic response to changes in the relation between domestic and foreign prices can be expected : for, as we have just seen, certain forms of directives allow the trader some say as to the level of trade and therefore, as to the relative level of domestic and foreign prices. Nor, on the other hand, does it imply that the mere abandonment of the most compulsory of all directives, that is the single commodity volume target, will suffice to establish a link between domestic and foreign prices : for, as an analysis of the single commodity value target or competitively allocated quota shows, their use will result in perverse adjustments, that is in opposite movements of domestic and foreign prices, and may also sever domestic from foreign prices in the same way as equalization.

Specifically, we can rank the instruments of trade control into four groups. There are first the instruments which preclude the automatic abandonment of equalization. They are the single commodity volume target and competitively allocated quota. At the other end of the scale there are those which ensure the automatic maintenance of the link between domestic and foreign prices. These are trade taxes, or tariffs, and subsidies. Between them there are, on the one hand, the instruments which allow some automatic response to changes in domestic or foreign prices but which will require continuous central intervention if the link between the two is not to be disrupted : these are the single commodity value targets and competitively allocated quotas. And there are, on the other, the instruments which allow a limited response to changes in domestic or foreign prices and may require central intervention if the link between the two is not to

be disrupted : these are the multi-commodity targets or quotas. The groups of instruments are tabulated in the chart appended to Appendix III.

If a country wishes to abandon equalization, as well as the day-to-day responsibility for its elimination, therefore, it will have to abolish single commodity volume targets and competitively allocated quotas on imports and exports. It should introduce tariffs and subsidies. But this may not be desirable, because of instability on world markets or because of internal disequilibrium. If it is not, the country should plump for multi-commodity targets or quotas, and steer clear of single commodity value targets and competitively allocated quotas. In considering the six Eastern European countries which have opted for the abandonment of equalization, therefore, we shall examine how they are proceeding to do so, and whether, if they are decentralizing, they are also avoiding single commodity targets and competitively allocated quotas.

Trade Control and Protection

It is commonly held that quotas are equivalent to tariffs, in the sense that a given tariff will determine a quantity of trade which, if set alternatively as a quota, will generate an implicit tax equal to the tariff ; and, conversely, that a tariff is equivalent to a quota in the sense that a quota will generate an implicit tax which, if set alternatively as a tariff will determine the same quantity of trade as the quota. Similarly, quotas are often identified with targets, and the two terms used interchangeably. So it would seem that targets are equivalent to tariffs in the sense just defined.

But quotas and tariffs are not equivalent. ^{7/} And quotas and targets are neither identical, since a target can be used to expand trade like a subsidy whereas a quota cannot, nor equivalent. Nor are targets and tariffs or subsidies equivalent. And these recent results, which are discussed in Appendix IV, mean that the effect of the three types of instruments on protection need not be the same. It follows that the level of protection may change not only intentionally, because of a decision on the part of the economic authorities, but also unintentionally, because of a change in the method of trade control and the substitution of one instrument for another.

By protection we mean, as in Chapter I, a policy expressing a preference for domestic over foreign production, implemented by restricting imports and expanding exports, and thus raising domestic above foreign prices. An instrument of trade control which reduces the level imports and raises domestic above foreign prices will thus be protectionist according to this definition. The same will be true of an instrument which restricts imports, raises domestic above foreign prices and increases domestic production. Again an instrument that restricts imports while maintaining the same rate of divergence between domestic and foreign prices as second instrument, or which restricts imports and expands domestic production while maintaining the same rate of divergence between domestic and foreign prices, will be said to raise protection as compared to the second instrument. And an instrument which restricts imports and allows producers to exploit a domestic monopoly and so to restrict production will also be termed protectionist. But an instrument which does not restrict imports, yet enables a domestic monopolist to exploit his domestic monopoly and to res-

strict production will not be considered protectionist. For, although the domestic monopolist's action will raise the domestic above the foreign price, this will occur not at the expense of foreign producers but at the expense of the domestic consumer. ^{8/} Given our definition, we can then identify at least three causes which may lead to changes in protection as the system of trade control alters.

The first is a domestic monopoly of production. For the replacement of a restrictive import target by an explicit tax equal to the implicit rate obtaining under the target will then lead to a contraction of imports and an increase in domestic production, while the replacement of an export target by an 'equal' explicit subsidy, will lead to an expansion in domestic production and exports. But because we suppose only production to be monopolistic, trade being assumed competitive, the rate of divergence between domestic and foreign prices will remain the same under both the tax or subsidy and the target.

The second is a monopoly of the quota. For in this case the replacement of a restrictive import target by a quota may lead to a restriction of imports, a rise in the rate of divergence between domestic and foreign prices and an increase in domestic production. And the replacement of a restrictive export target by a quota may reduce exports, increase the rate of divergence between domestic and foreign prices and lower domestic production.

The third is a monopoly of trade. In this case an import tax will increase protection as compared to the target, the quota, as we have seen, may do so, but an export subsidy will reduce protection as compared to the corresponding target. Thus the replacement of a restrictive import target by a tax equal to the implicit rate under the target will lead to a contraction of trade ; the replacement of a target by a 'lower' tax may do so ; the replacement of a target under which the monopolist actually maximizes profits, or could have done so had he been free to, by any trade tax, however low, will reduce imports ; and so will the replacement of a target under which the monopolist maximizes profits, or could have done so had he been free to, by an equal quota plus a duty or a license tax lower than the implicit rate under the target. Moreover, because trade is monopolistic, the rate of divergence between domestic and foreign prices will rise in the first case, may in the second, and will in the third and fourth.

If an expansionary export target is replaced by a subsidy equal to the implicit rate under the target, this will generally contract domestic production and exports, and its replacement by a 'higher' subsidy may do so. Moreover, in this case, the contraction in trade will be associated with a reduction in the rate of divergence between domestic and foreign prices, which is explained by the fact that as the monopolist trader restricts trade below the level achieved by equating marginal cost, including the tax or subsidy, to price, he will raise the rate of divergence between domestic and foreign prices above any explicit trade tax, but reduce it below any explicit subsidy. Given a monopoly of trade, the export subsidy, in contrast to the import tax, will therefore reduce protection as compared to the target.

Given both a monopoly of production and a monopoly of trade, the situation being one of bilateral monopoly anything may happen depending on the behavioural assumptions made. But, in two extreme cases where, first, the monopolist producer maximizes profits subject to the quantities traded and the monopolist trader maximizes profits on the basis of this assumption and, where, second, the monopolist producer also has the monopoly of trade, the solutions will be the same as for the monopolist trader.

Thus if protection is to be reduced - as we have suggested that it should for the sake of efficiency in Eastern Europe - in countries which are abandoning targets for quotas and taxes or subsidies, it follows that, first, where there is a monopoly of production but competitive trading or, more realistically, where producers are able to exercise their monopoly power but traders are obliged to act competitively, explicit rates of import tax or export subsidy must be cut not only below the implicit rates obtaining under targets, but sufficiently to result in an expansion of imports and a contraction of exports. Second, where there is a monopoly of trade, or a monopoly of production and of trade in the two situations defined above, any explicit tariff on imports must be cut not only below the implicit rate obtaining under the target, but also sufficiently to offset the restrictive effects of the trade monopolist's profit-maximizing behaviour. But note that, to the extent that the trader was already maximizing profits under the target, or could have done so had he been free to, no tariff, however low, will reduce protection. Nor will the combination of an equal quota and a tariff or a license tax lower than the implicit rate under the target. Third, given a monopoly of trade, or of production and of trade in the two situations just cited, import quotas must exceed targets and not allow traders to maximize profits. Fourth, however, given the same market structure, explicit subsidies on exports need not be cut below the implicit rates obtaining under the target: they may even rise above them. A cut in the explicit subsidy below the implicit rate on exports will then simply reduce protection farther still. A country shifting from targets to taxes and subsidies, therefore, may be able to combine its exports subsidies and import taxes in such a way as to ensure that the reduction in protection on the export side outstrips any possible increase in protection on the import side.

However, countries may be shifting not from targets to tariffs and subsidies, but from single commodity volume targets to single commodity value targets, and from single commodity targets generally to multi-commodity targets in volume or value terms. In other words, they may be liberalizing the target control of trade. If so, the greater freedom given to traders to maximize profits may, given a monopoly of trade, lead to a contraction of at least some imports and an increase in the protection of the corresponding import-competing industries. On the other hand, it may lead to the contraction of a least some exports and a reduction in the protection of the corresponding export industries. Given a monopoly of trade, moreover, a tax on imports will tend to reinforce the protection of the import-competing industries, but a subsidy on exports will raise the protection of the exporting industries only if the explicit subsidy exceeds the implicit subsidy under the previous target sufficiently to offset the effect of the trader's monopoly power. Here too, therefore, a country liberalizing its target control in the presence of foreign trade monopoly may be able so to combine the introduction of more liberal export and import targets as to ensure a reduction in the level of protection.

Two other policies are available, however, to countries wishing to ensure a reduction in protection while undertaking trade liberalization in the presence of monopoly. The first is to resort to price control. The second is to associate the substitution of taxes and subsidies for targets, or of more for less liberal targets, with the breakdown of production and trade monopolies. Both policies are at the disposal of the Eastern European countries. In considering their foreign trade reforms, therefore, we shall examine not only whether their level of protection is being reduced, but also whether this is being achieved by the appropriate manipulation of trade control instruments, or by controlling prices and dismantling monopolies.

Trade Control and Discrimination

Finally, the instruments of trade considered can be used for discrimination. If the rates of divergence which they introduce between domestic and foreign prices differ as between products, they will introduce product discrimination. In other words, since different rates of divergence between the domestic and foreign prices of products mean that different quantities of domestic currency exchange for a unit of foreign currency according to product, they will determine discriminatory commodity exchange rates. If, on the other hand, they establish different rates of divergence between domestic and foreign prices for transactions in different currencies, they will introduce currency discrimination and determine discriminatory currency exchange rates. And to the extent that the output of any traded product and the use of any currency is specific to a single country, their use for commodity or currency discrimination will also achieve discrimination by country and determine discriminatory country exchange rates. Where all countries produce all traded products and certain currencies are the international currencies of a currency area, however, discrimination by country will require the specific country differentiation of targets, quotas, and tariffs and subsidies. (Note that currency and country exchange rates are both directional rates in the sense attributed to this term in Chapter I.). A necessary condition for any reduction in discrimination, therefore, must be the contraction in the number of commodity, currency and country exchange rates as compared to those obtaining previously.^{9/}

But just as targets, quotas, tariffs and subsidies do not have the same effects with respect to the linking of domestic and foreign prices or with respect to protection, so they are not equally discriminatory. This may be seen by taking two import products which are subject one to a tariff which establishes the rate of divergence between domestic and foreign prices and the other to a single commodity volume target, or competitive quota, which establishes the same rate of divergence between domestic and foreign prices as the tariff. There is then no discrimination between the two products and, assuming that they are produced by two different countries, between countries. But suppose the foreign price of one of the products falls : under tariff control, the level of trade will change until the rate of divergence between domestic and foreign prices introduced by the tariff is restored ; but under the single commodity volume target or competitive quota, no change in the level of trade will be possible, and the rate of divergence between domestic and foreign prices will thus rise. Consequently whereas, given the same tariffs for both commodities, the lack of discrimination between the two commodities and their producing

countries will be maintained, under single commodity volume targets or competitively allocated quotas, this is unlikely. Thus we shall say that the single commodity volume target or competitively allocated quota is a more discriminatory instrument than the tariff or subsidy. This will also be true of the single commodity value target or quota, and may be of multiple commodity targets and quotas. ^{10/} It follows that a reduction in discrimination will require not only a reduction in the number of effective exchange rates at any one time, but also a shift from more to less discriminatory instruments of trade control. In assessing the change in discrimination taking place under the East European foreign trade reforms, therefore, we shall consider not only the number of exchange rates, but also the types of control instruments.

We now turn to the foreign trade reforms.

II.

THE EVOLUTION OF FOREIGN TRADE SYSTEMS
IN EASTERN EUROPE

The Reforms : General

In contrast to the programmes for the general reform of the economic system, the East European foreign trade reforms have only two characteristics in common : the first is the shift of emphasis from short to medium and long-term planning which we noted in the case of the general reforms ; the second is decentralization, which has meant a multiplication of foreign trade corporations, and the association of producers in foreign trade. But the latter has been so modest in certain countries that it has not warranted, as was the case of the general reforms, any marked change in the methods of planning and control of trade. And in the USSR, the 'price' reform necessary for foreign trade efficiency, that is the abandonment of equalization, has been neither undertaken nor, it would seem, publicly debated.

Thus, whereas in the case of the general reforms, we were able to divide the Eastern European countries into conservatives, radicals, and Bulgaria hesitating between the two, in the case of the foreign trade reforms we must distinguish between four groups. There is first, one arch-conservative, that is the USSR, which maintains a highly centralized system and equalization. There are, second, the conservatives represented by Eastern Germany, Poland and Romania which retain highly centralized systems but are in the process of abandoning equalization. There are, third, the radicals, that is Hungary, and Czechoslovakia until mid-1969 at least, which are abandoning equalization and whose objective is a regulated market, in other words a system regulated by the exchange rate, tariffs, subsidies and, transitionally, quantitative restrictions. Finally, there is Bulgaria, which may best be described as an aspiring radical.

The splintering of the countries in this manner has meant that to provide not only the details of the foreign trade reforms, but the overall picture as well we have been obliged to abandon the division according to the degree of radicality of the reform, to which we resorted in the case of the general programmes. Instead, we have adopted a classification according to the chief areas of reform which has the additional advantage of relating the present discussion to our analysis of the 'traditional' trade monopoly in Chapter I. The areas of reform considered are the structure of the monopoly, the planning and control of trade and the linking of domestic and foreign prices. In drawing the conclusions of our analysis, however, we shall briefly revert to our classification of countries by degree of reforming radicality in order to show any similarity which may exist between general and foreign trade reform in Eastern Europe.

In what follows, all technical terms will be used in the senses defined in this and the preceding chapters.

The Structure of the Foreign Trade Monopoly

Decentralizing the structure of the foreign trade monopoly could mean as little as dividing the existing foreign trade corporations into more specialized units in closer contact with their respective production sectors ; or it could extend to the granting of trading rights to the producers themselves. The reform measures, in fact, run the full gamut from the one to the other.

In the USSR, the essential change has been a multiplication of foreign trade enterprises whose number has risen from 31 in 1964 to 52 in 1967. But, at the same time there has been some association of producers in trading activity : advisory councils for export promotion, including representatives from both foreign trade and industrial ministries and corporations, have been set up to advise the foreign trade corporations. And some of the latter have been subordinated to industrial ministries.

A similar association of producers in trading activity is also evident in the other countries where, however, the most important consequence of decentralization is the actual or promised direct participation of producers in trade. This has taken on a number of forms, the first of which, in order of decentralization, is the granting of trading rights to industrial associations in four out of six countries. In Bulgaria, industrial associations account for some three-quarters of total exports to which must be added the trade transacted by a number of joint-stock companies created by groups of associations. ^{11/} In Eastern Germany a number of VVB's have created their own foreign trade enterprises, or combined domestic and foreign trade enterprises, and this privilege is to be extended. In Poland, five associations or enterprises have been granted trading rights and the reform foresees the continuation of this process. ^{12/} In Romania, most trade has been transferred to the associations since the beginning of 1970. ^{13/}

The second form of direct producer participation in trade consists of a number of arrangements which permit individual manufacturing enterprises, distributors and cooperatives to work with the foreign trade corporations. One such arrangement is for the foreign trade corporations to act for a domestic manufacturer, or group of manufacturers, as agent on commission. This has taken on particular importance in Hungary but is also practised in Czechoslovakia. Another is for manufacturers, a foreign trade corporation and a bank to set up a joint-stock company and to obtain dividends from the company's net profits in accordance with their capital subscription. This form of association has been resorted to in Czechoslovakia where it is considered to be one of the most successful forms of foreign trade organization. A typical example is Phoenix Prague whose shareholders are the Bank of Foreign Trade, Bratislava engineering construction works, Zlicin construction equipment works and the foreign trade corporation Strojexport. ^{14/}

The third form of direct trade has been adopted or is planned in all countries except Bulgaria and the Soviet Union, ^{15/} and consists in individual producers trading on their own account. In Romania, the reform foresees the devolution of trade to producers, especially large ones. ^{16/} In Poland, as we have seen, trading rights have already been granted to a handful of enterprises and are

progressively to be made over to some more. In Eastern Germany, the same is true, the enterprises trading at present being Carl Zeiss Jena and Watch Manufacturers Ruhla. In Czechoslovakia, trade authorizations have reflected the successive waves of decentralization and re-centralization which have characterized the economy since 1968. Seventy authorizations were granted between the publication of the decree authorizing enterprises to trade directly in August 1968 ^{17/} and the beginning of 1970 ; all but twenty-one were then withdrawn to the end of August 1970 ; then the issue of further permits was suspended until 1971. ^{18/} In Hungary, the number of enterprises with foreign trade rights rose steadily from eight before the reform to sixty-five by the beginning of 1970. In addition, three joint-stock trading companies were created by groups of producers whose individual trade would not have warranted the establishment of a separate company, and a number of *ad hoc* permits were also issued. In 1970, the number of new authorizations appears to have diminished. In November, the 10th Party Congress opted for caution rather than for a further rapid rise in the numbers of trading producers, and only a handful of authorizations were granted for January 1, 1971. Thus Hungary seems also to be entering upon a period of consolidation at least in so far as the organization of its trade monopoly is concerned. Meanwhile, the proportion of trade accounted for by domestic manufacturers and distributors remains modest. ^{19/}

Hence the forms of trading enterprise in Eastern Europe are now various. And even the traditional corporations have acquired new prerogatives as a result of decentralization : In Hungary, for instance, they are allowed to buy and sell on their own account. Further, while the new forms have sometimes replaced the old, especially in Bulgaria, and to some extent in Czechoslovakia, they have normally been added to the traditional corporations. Thus decentralization has meant a sharp increase in the number of trading units.

It is, moreover, changing the representation of Eastern European trading interests abroad and is leading to some representation of foreign trading interests in East European markets. The East European trade corporations continue to be represented by agents posted in foreign markets whose numbers are increasing. But, in addition, mixed companies, often with producer participation, have been created for the marketing of East European goods in foreign markets, and particularly Western markets, or for the combined sale of East European and purchase of foreign products. The creation of more companies of this kind is, for instance, an explicit aim of the Romanian reform.

The representation of foreign trading interests in East European markets, on the other hand, is assured, with one exception, by domestic producers and organizations especially established for the purpose. Such agencies are operating in the USSR, Poland, Czechoslovakia, Eastern Germany, Hungary and Bulgaria. But in Czechoslovakia since February 1970, their number has been cut back to about ten, the creation of new agencies has been made subject to the prior authorization of the Ministry of Trade, and not simply to registration as was the case between 1968 and 1970, and - a detail which emphasizes the previous pace of decentralization - individuals have been debarred from acting as commercial agents. ^{20/} The exception is Romania, whose authorities have gone so far as to allow foreign firms to set up their own agencies, forty of which were in existence

in 1971. This fulfills the aspirations of Western businessmen who have long complained of their inability to open agencies in Eastern Europe, and may be the signal for similar developments in other East European countries.

The decentralization of the monopoly, finally, has facilitated industrial cooperation. Although the actual agreements are normally concluded through central organs, they enable foreign firms to cooperate directly with domestic producers for years at a time. Industrial cooperation includes technical cooperation and joint research, specialization arrangements covering deliveries of specified inputs or outputs, deliveries of machinery, equipment or entire plant accompanied by the supply of know-how by the selling enterprise, and marketing agreements such as those already referred to. Although the proportion of trade due to industrial cooperation within the Comecon is not known, as between East and West, where cooperation began in earnest in about 1965, it is still minute. ^{21/}

Thus the single, highly centralized structure which, with few variations, characterized the foreign trade monopoly in Eastern Europe before the reform, has given way to a variety of systems. The foreign trade corporations have been supplemented, but more rarely replaced, by other types of trade organization and the numbers of importers and exporters has therefore risen sharply. In addition, the separation of producing and trading interests, and hence the insulation of producers from their foreign clients and suppliers, is being broken down. In sum, the structure of the foreign trade monopoly depicted in Figure I. and described in many textbooks, is gradually becoming a thing of the past.

The Planning and Control of Trade

Correspondingly, the planning and control of trade is changing. As direct links are established between buyer and seller, market relationships are increasingly taking the place of direct allocation. But here, again, the degree of change has varied from country to country. Little has occurred in the USSR. More has happened in Romania, Eastern Germany, Poland and Bulgaria. In Czechoslovakia the measures taken were far-reaching until mid-1969. In Hungary the previous system has been completely abandoned.

In the Soviet Union and Romania, the sequence and form of planning follow the pattern described in Chapter I and continue to show traces of the 'import-first' approach. ^{22/} In Romania, however, the new trade law passed in the Spring of 1971, suggests that in the future the associations and other intermediate bodies may initiate the planning process by passing their draft plans, based on their own predictions, up to the Planning Commission. And in the USSR, the wholesale price reform has probably made a more accurate computation of foreign trade efficiency criteria possible.

In Eastern Germany, Poland and, it would seem, Bulgaria the 'import-first' approach has been abandoned. The plan is no longer drawn up for productions, imports, then exports but instead for production, exports, then imports, which reflects the fact that trade is no longer being undertaken regardless of the comparative scarcities on domestic and world markets but, increasingly, in view of them. In other respects the sequence of planning in Eastern Germany and Bulgaria has not altered. In Poland, by contrast, it has been changed so as

to give added weight to enterprise proposals. Thus, the producers pass their preliminary requirements and production schedules up to the Planning Commission which drafts a foreign trade plan and subjects it to discussion. A 'counter-plan' is then prepared by the foreign trade corporations, the trading enterprises, and by their domestic clients and suppliers. Active foreign exporters, it would seem, may also influence the importing corporations. Modifications are then made to the draft plan and this leads to the elaboration of the final plan. ^{23/}

Moving down from the national plan to the instructions issued to the foreign trade corporations and enterprises, in Eastern Germany these consist of directives for plan-period results, the trade margin, circulating capital, normatives relating to the trade margins and plan-period results, exports and re-exports, imports, payments to and receipts from the budget, foreign exchange receipts and expenditures, fund use, credits, other financial funds, and directives relating to sales and supply organizations. The trend is away from targets in absolute terms and towards indicators, that is ratios of two or more variables. ^{24/}

In so far as visible trade is concerned, the State plan continues to be a commodity-area plan as in the early nineteen-sixties, ^{25/} the country/commodity plans being elaborated only once this has been adopted by the Central Committee. The binding State targets received by the foreign trade corporations and trading enterprises consist, therefore, of export targets in volume and value in marks broken down as between the socialist area of which the USSR, and the convertible currency area, and import targets in volume and c.i.f. value broken down as between the socialist area, of which the USSR, and the convertible currency area, of which Western Germany/West Berlin. ^{26/} While, however, the direction of trade seems to be specified much as it was, it is probable that the commodity targets are much broader and, moreover, that volume directives are fewer.

In addition to directives for visible trade, the trading corporations and enterprises also receive targets for services broken down by area of destination and origin, that is socialist and non-socialist, the latter being divided into convertible currency countries, capitalist industrial countries, Western Germany/West Berlin, and developing countries. Credit directives are broken down into the same areas of origin and destination as targets for services and also differentiate between short-term and long-term credits. The trade margin normatives, finally, are differentiated simply as between socialist and non-socialist areas. ^{27/}

In Poland, the indicators handed down to the foreign trade corporations and trading enterprises have been changed by the system of management introduced on January 1, 1966 from physical directives, now used only for certain basic materials and agricultural commodities, to value indicators relating to broad categories of products. In Bulgaria and Romania, too, value targets are increasingly replacing volume targets.

In Czechoslovakia and Hungary, by contrast, the intention was not to broaden targets with respect to the directions and commodity composition of trade. It was to abolish the target control of trade altogether and to replace it by indirect control through the price-mechanism. The national plan was, therefore, to consist of binding objectives for the central authorities only who were to achieve them not by issuing directives but by resorting to the appropriate indirect policy instruments.

In Czechoslovakia, progress was made towards this objective from 1967 to the middle of 1969 during which period directional exchange rates, subsidies, levies and to some extent the tariff became increasingly effective. ^{28/} Directives continued to be resorted to, however, notably to increase imports from Eastern Europe and so reduce Czechoslovakia's surplus balance with the Comecon area, and to promote exports to the West. But in the middle of 1969, the trend towards the relaxation of direct control was reversed. The emergence of a very substantial deficit with Eastern Europe for the second year in succession led to the reimposition of binding targets on exports to Comecon countries as part of a general stabilization programme, and since then the use of targets has been on the increase. In 1970, moreover, the direct control of trade was reinforced by requiring enterprises to make monthly trade returns. ^{29/}

All this has not meant the total exclusion of indirect controls, however : in January 1970, the resolution on economic policy adopted by the Central Committee ^{30/} stated that while obligatory targets were to be imposed to ensure the satisfaction of the most important needs and the 'proportionate development' of the economy, prices, taxes, interest rates and other market-conform instruments were to encourage the enterprise to satisfy the needs of the community as efficiently as possible ; in the foreign trade sector this means that targets and indirect policy instruments are being used in combination.

In Hungary, the entry into force of the reform on January 1, 1968 meant the dismantling of target control and its replacement by a mixed system of indirect and of other direct controls. The first include directional rates, exports subsidies, the tariff, and advance deposits on imports. ^{31/} The second consists of quotas and licensing which have been introduced with a view, amongst other objectives, to ensuring the fulfilment of Government obligations under bilateral agreements. But because licensing can control the demand for imports and to export, but cannot compel the purchase of imports or sale of exports, it is recognized that resort may have to be had to additional administrative measures on bilaterally balanced trade and, therefore, with Eastern Europe. Under the Hungarian system the obtention of an import licence automatically gives the trader the right to the appropriate amount of foreign exchange.

With the exception of the Soviet Union, therefore, the reforms have led to substantial changes in the planning and control of trade as compared to the previous model. At their most modest, they have led to a broadening of targets ; at their most ambitious to an abandonment of target control and its replacement by indirect controls combined with import and export licensing. Central allocation in the foreign trade sector is thus giving way to a system of centrally imposed constraints within which market forces are being given a freer rein.

As a result indirect trade policy instruments, that is exchange rates, taxes and subsidies, are increasingly influencing trade activity. And thus the tariff, which was inoperative under the previous system, is beginning to regain its effectiveness. This is not yet true in the USSR, Romania and Poland, where tariffs are still applied only exceptionally. ^{32/} nor in Bulgaria which, however, introduced a three-column tariff in 1969. ^{33/} But in Czechoslovakia, despite a return to targets, some influence is attributed to the tariff which is being revised prior to increasing its role in the control of trade. ^{34/} And in Hungary the tariff is already an essential instrument of trade regulation.

Moreover, the gradual transition towards the indirect control of trade is being matched by a modest liberalization of financial controls, that is by some relaxation in the supervision exercised by the foreign exchange monopoly. Thus in the USSR, producers are being given foreign exchange premia for extra plan exports and the responsible institution or ministry may retain 50 per cent of the foreign exchange receipts of licence and know-how exports for technological imports. In Romania, traders are allowed to keep export earnings arising from extra-plan exports. In Bulgaria, the same is true. In Poland, enterprises which exceed planned export receipts or achieve savings on imports may retain foreign exchange in excess of plan. In Eastern Germany, trading enterprises exceeding their export targets, or achieving savings on imports, acquire a claim to foreign currency for additional imports of goods and services or for conversion into national currency at a premium rate. In Czechoslovakia, trading enterprises are being allowed to retain foreign exchange if their transactions improve the balance of payments, although according to what precise criteria is not clear. These balances may be used for unplanned purchases of machinery, equipment, raw materials, licences, packing materials, and foreign professional literature, or they may be sold to the Czechoslovak trade bank or transferred to other enterprises which contributed to the success of the initial beneficiary. ^{35/} Hence, except in Hungary, where the government has set itself against allowing enterprises to retain foreign exchange, the device of the retention quota is making a discreet appearance in Eastern Europe.

The Linking of Domestic and Foreign Prices

The broadening or abandonment of targets and the associated liberalization of financial controls permits, as we saw in Part I, the automatic or semi-automatic abandonment of equalization, or linking of domestic and foreign prices. But the train of measures which is leading to this result in countries in which producers have long been insulated from foreign markets are more complex and warrant closer inspection.

Measures to end equalization have been taken in the countries which have changed their methods of trade control, that is Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Romania, and have been most far-reaching in Czechoslovakia until June 1969 and in Hungary. They differ in form and in the degree to which they allow foreign prices to influence domestic production. In brief, export receipts and import expenditures reflecting foreign prices serve either to determine the premia paid to the staffs of the foreign trade corporations and the manufacturing enterprises, or are integrated into the accounts of the manufacturing enterprises thus affecting their profits and, to the extent that these determine enterprise behaviour, their entire activity. For this to occur without unduly disrupting export or import-competing production, given the higher level of domestic than of foreign prices at official exchange rates, a number of countries have unofficially devalued their currencies or are proceeding to the planned reduction of domestic prices.

Bulgaria has chosen to determine premia and at the same time to incite the foreign trade corporations to break even over time on the basis of foreign prices. The value of trade at foreign prices is thus converted at the official exchange rate and adjusted for subsidies and levies which are being unified by

commodity group and differentiate between socialist and non-socialist countries. It is then compared to its value at domestic prices and any profit as compared to what would accrue given the norm for the divergence between domestic and foreign prices is divided into premia for the staffs of the manufacturing enterprise and the foreign trade corporation, as well as between the industrial association, risk funds for foreign trade, and the State. The staffs of the manufacturing enterprise and of the foreign trade corporation receive 15 and 10 per cent respectively, the industrial association 5 per cent, the reserve funds of the foreign trade corporation and of the Ministry of Foreign Trade 25 and 22.5 per cent, and the State budget 22.5 per cent of the accounting profit so computed. In the event of a loss, similarly calculated, 2 per cent is borne by the foreign trade corporation, 4 per cent by the association or enterprise, and 94 per cent by the risk funds of the corporation or perhaps the State. ^{36/}

Under the system introduced in July 1966, Poland also linked premia to foreign prices. Foreign receipts were converted at exchange rates which differed according to whether trade took place with the socialist, capitalist, or the developing countries. These rates constituted an effective devaluation of the official rates but nevertheless continued to overvalue the zloty in relation to other currencies. Export costs were then estimated in terms of the average factory price of the goods exported, or of their internal transaction price if the former did not exist, and these were adjusted for three factors: the disparity between the domestic and world prices of materials, the foreign corporation's margin, and a uniform sales tax. ^{37/} The difference between export earnings and export costs so computed constituted the accounting profit which served as the basis for the payment of premia to the manufacturing enterprise and the foreign trade corporation. With the entry into force of the 1971-1975 plan, however, Poland has abandoned this method of premia determination and is integrating foreign receipts and expenditures into producers' accounts at prices reflecting foreign values.

Foreign exchange receipts and expenditures will thus be converted at two, and no longer three, directional exchange rates which will differentiate between the dollar and the ruble. As the new rates maintain the overvaluation of the zloty, external balance will continue to require subsidies to be paid on about half Polish exports and levies to be imposed upon about the same proportion of Polish imports. The effect of foreign prices on enterprise profits would therefore seem to be restricted to those exports which can be made profitably under the new rates and to these imports which are not subject to a levy. But in the other cases, amounting to a little less than half of Poland's trade, though the difference between domestic and foreign prices will continue to be compensated, this will no longer take place on a product-by-product basis. For export producers will receive enterprise instead of product subsidies with the result that they will be encouraged to eliminate high-cost, and promote low-cost, exports. And imports will be taxed by product group so that high-cost import-competing production should gradually be eliminated.

At the same time the premia paid out to the staff of enterprises specializing in export production are to depend entirely or chiefly on export profits calculated as the difference between export earnings, converted at the appropriate

rates for the ruble and the dollar, subsidies, and domestic costs. Thus in enterprises exporting more than 80 per cent of their output, export profit is to be the sole criterion for the payment of premia. In enterprises specializing in export production, export profit will be the chief criterion for the payment of premia while the growth of exports, calculated separately for the socialist and capitalist countries, will be a secondary criterion. In other enterprises producing for export, the growth of profitable exports will constitute a secondary criterion. And in the foreign trade enterprises the increase in the premium fund will depend upon the growth of profitable exports to the two currency areas. ^{38/}

The influence of foreign prices on activity in the export sector should, therefore, be substantially increased over the next five-year period. It will also be increased on the import side although no doubt more slowly.

In Eastern Germany, foreign receipts reflecting foreign values have also been integrated into manufacturers accounts with the entry into force of the 1971-1975 plan. Eastern Germany has a head start over Poland in this, however, since its new rules for enterprise accounting were already introduced in a selected number of export enterprises as early as 1968. But, in contrast to Poland, its measures do not seem to provide for the direct inclusion of import expenditures reflecting foreign values into enterprise accounts. Nor does Eastern Germany seem to have reduced the number of its directional rates or to have proceeded to the substantial effective devaluation of its currency in the way that Poland has. Export earnings, calculated at official exchange rates, will therefore continue to be multiplied by a number of 'currency-relation' or directional coefficients which differentiate as between countries and currency areas. On the other hand, part of the divergence between domestic and foreign prices is gradually to be overcome by the planned reduction of domestic prices. ^{39/}

Initially it would seem that the effect of foreign prices on the profits of export producers will be limited. For all export producers are entitled to, and include into their accounts, various kinds of export subsidy. These are export reimbursements in cases where the price of material inputs lies above the world price ; export premia for new, technically advanced or structurally important goods whose profitability can be improved, or whose sale is restricted by subsidies paid to foreign producers ; and export assistance granted on the basis of central normatives and which make up for that part of the planned loss not covered by the payment of reimbursements or premia. The reimbursements and premia are paid on a product basis and all three types of subsidy are cumulative. ^{40/} Thus, although they are not supposed to impede cost reduction or the promotion of profitable exports, and although the export assistance normatives are determined in such a way as gradually to reduce the extent of State support, they may be used, for a time at least, to compensate the enterprise for any excess of domestic cost over export price. Over the five-year period, however, the lowering of domestic prices should bring about a decrease in subsidies, and hence increase the impact of foreign prices on the allocation of resources.

In Czechoslovakia and Hungary foreign receipts and expenditures reflecting foreign values have already been integrated into enterprise accounts. In Czecho-

slovakia, this occurred in 1967 when a first experimental unification of directional exchange rates by currency area was introduced and was then confirmed in 1968. The official rate of the dollar was multiplied by a coefficient of about 3, that of the ruble by a coefficient of about 2, so that the koruna was effectively devalued, and foreign receipts and expenditures were integrated into enterprise accounts after conversion at these rates. Foreign prices should, therefore, have affected the gross income or the profit of the enterprise. But because the directional rates continued to overvalue the koruna, subsidies were paid on about half Czechoslovakia's exports and levies imposed on about half its imports, thus apparently limiting the impact of foreign prices to the exports which were profitable at the new rates and to the imports which were not subject to a levy. In fact, as scheduled for Poland, the replacement of product by enterprise subsidies, and some unification of equalization rates on the import side, meant that the effect of foreign prices was extended some way into the sector of subsidized exports and taxed imports. On the other hand, the fear that profits earned by the producers of profitable exports might prove inflationary led to a tax being placed on them while, on the import side, certain imports whose price had risen as a result of devaluation were subsidized. Thus the impact of foreign prices on the producers of profitable exports and on the purchasers of imports not subject to a levy was restricted, especially as these were probably also affected by the tariff to some extent. The impact of foreign prices on all trade was further limited, finally, by the continued use of targets in both the foreign and domestic sectors. Hence, though the influence of foreign prices on enterprise activity was already perceptible by the end of 1967, ^{41/} it was probably rather modest.

During 1968, the mandatory system continued to be dismantled in both the foreign and domestic sectors so that, with the growing proportion of flexible prices, the influence of foreign prices should have been more widespread. In August 1968, a further unification of exchange rates was included in the economic guidelines for 1969 according to which the two directional rates were to be maintained, the official ruble rate being multiplied by a coefficient of 2.25 and the official dollar rate by a coefficient of 3.75. Subsidies and levies, that is equalization rates, were to be further unified by commodity groups, however, and export subsidies exceeding the rate of 34 per cent were to be reduced by 20 per cent, import subsidies to be cut and granted only exceptionally, export taxes to be levied on a lump-sum and no longer a percentage basis, and on the previous volume of trade so that any expansion of exports would be tax-free. ^{42/} The influence of foreign prices on domestic markets should thus have been considerably strengthened had it not been for the reintroduction of targets to reorientate trade in mid-1969.

In 1970, the coefficients applied to the ruble and dollar rates remained the same. A further average reduction of 20 per cent on export subsidies exceeding 15 per cent was scheduled, but was subject to numerous exceptions, many of which were at the discretion of the central authorities. As, moreover, price equalization was reintroduced wherever targets determined export trade, it seems unlikely that the average reduction in export subsidies was anything like as high as 20 per cent, although some reduction no doubt took place. Tax reductions, or even exemptions, ^{43/} continued to be granted to exporting manufac-

turers. On the other hand, new export taxes were added to curb the export of vital goods. ^{44/} On the import side, meanwhile, taxes and subsidies continued to be used and were, as in the case of exports, subject to change at the discretion of the authorities. ^{45/}

Thus, whereas from 1967 to mid-1969 the number of exchange rates was steadily and considerably reduced and the influence of foreign markets on the domestic market increased substantially, as from June 1969 it has significantly weakened. This has been due, on the one hand, to the severance of the link between certain domestic and certain foreign prices owing to the partial return to price equalization. It has been due, on the other, to the general reintroduction of directives and to the freezing of the majority of prices which together have effectively interrupted the automatic transmission of trade-induced changes. Nevertheless, the reallocation of resources with respect to relative world scarcities proceeds though much more hesitantly than before. And it is likely to go on doing so in view of Czechoslovakia's urgent need to allocate its resources more efficiently, and its stated intention of doing so.

In Hungary, the reform has led to a unification of directional rates by currency area which, as in Poland and Czechoslovakia, has been associated with an unofficial devaluation of the exchange rate. But, as in the other two countries, this has not eliminated the overvaluation of the currency. The rates differentiate between ruble and dollar trade and are 60 forints per US dollar and 40 forints per ruble. As from 1968 import expenditures and export receipts have been converted at these rates and integrated into enterprise accounts.

Imports, however, are subject first to the tariff introduced, like the rest of the reform, on January 1, 1968. Hungary, alone amongst the Eastern European countries, has abandoned levies for a schedule of published customs duties. Imports of consumer goods are further subject to a turnover tax applied in cases where the tariff alone does not ensure adequate protection for the domestic producers. And machinery imports financed out of enterprise investment funds and purchased with convertible currency were subject to the payment of an advance two-year deposit until 1971.

The tariff comprises three columns for preferential, most-favoured-nation and retaliatory rates. The average most-favoured-nation tariff is approximately 30 per cent, the most-favoured-nation rates on raw materials being 0-5 per cent, on semi-manufactures 5-20 per cent and on manufactures and consumer goods about 40-50 per cent. The average retaliatory rate is about twice as high as the average most-favoured-nation tariff. In 1968 about 600 of the 3000 tariff positions were wholly or partially waived to avoid large price movements, but in 1969 this figure was cut down to 150 so that to all intents and purposes the tariff was applied. In 1971 and 1972 certain most-favoured-nation rates were reduced, for machinery and equipment in particular. ^{46/} The rate of the import turnover tax is not known and presumably differs according to commodity. The rate of advance deposits, on the other hand, was 150 per cent in 1968, 100 per cent in 1969, and has now been suppressed. Nevertheless, at the moment, it is only to the extent that the tariff, taxes and, further, the effect of quantitative restrictions do not compensate for the difference between domestic and foreign import prices that the latter are affecting resource allocation.

On the export side, the fact that the forint remains overvalued, has led to the continued payment of subsidies on a high proportion of exports. ^{47/} In 1969, moreover, a special premium of 7.5 per cent was granted on dollar sales concluded at a rate no lower than 80 forints per dollar. Subsidies, however, were paid on an enterprise instead of a product basis up to 1971, and during the 1971-1975 plan period are to be paid on a branch basis. High-cost subsidized exports should therefore gradually be eliminated. At the same time enterprises which require no subsidy will receive premia which, in contrast to the subsidy which goes to the enterprise, will be available to increase personal incomes. Such enterprises may also be awarded tax concessions. Thus, although the effect of foreign export prices on the export sector is restricted, it seems progressively to be increasing.

In Romania, finally, it would seem that, as from 1971, producers have begun to incorporate export receipts and import expenditures valued at foreign prices into their accounts. As in most of the other countries which have taken this step, moreover, it has been accompanied by a substantial though unofficial devaluation of the leu which differentiates between the dollar and the ruble and is greater with respect to the first than to the second. Again, where export subsidies nevertheless continue to be necessary, they are being paid on an enterprise instead of a product basis. The direct influence of foreign prices on the allocation of resources is, nevertheless, probably very slight owing to the continued unimportance of profit in the Romanian system. But the projected introduction of a tariff suggests that it will be reinforced in the future.

Thus in Romania, Bulgaria, Poland, Eastern Germany, Czechoslovakia and especially Hungary, the third distinctive feature of the traditional foreign trade monopoly, namely the maintenance of an 'autarkic' price system through price equalization, is gradually disappearing. Its elimination is being effected by the adoption of trade control instruments which allow the automatic or partially automatic linking of domestic and foreign prices and by a train of measures designed to make this effective. The process is associated with a consolidation of commodity rates and also of directional rates designed to promote a broader reallocation of resources in accordance with relative world scarcities. It has, moreover, been accompanied by unofficial devaluations in Romania, Poland, Czechoslovakia and Hungary introduced to avoid the disruption of production which adjustment to world prices could entail. Concomitantly, these amount to a consolidation of the rates of import tax and export subsidy on the products which are being traded freely at the new exchange rates. In Eastern Germany, where the abandonment of equalization is cautious, unofficial devaluation has, however, been replaced by the projected planned reduction of domestic prices, at least for the time being.

III.

CONCLUSIONSThe Emerging Foreign Trade Systems

Only one country, therefore, has so far made no attempt to go beyond the reduction of waste to achieve efficiency : it is the USSR. The modesty of its reform has meant that its foreign trade system remains what it was, that is central direct allocation. Its only concession to change has, as we have seen, been some association of producers and traders within the ministries, the subordination of certain foreign trade corporations to their industrial ministries, and a breakdown of the foreign trade corporations into more numerous units in closer contact with their respective production sectors.

In the other six countries, on the other hand, more extensive measures are being taken to reduce waste. In addition, an attempt is being made to link domestic and foreign prices and so to promote efficiency. Volume are thus being abandoned for value targets, and equalization for consolidated commodity and directional rates. Hungary, indeed has adopted and is applying a tariff. Simultaneously domestic currencies have been unofficially devalued in Poland, Czechoslovakia, Romania and Hungary, while the domestic price level is to be reduced in Eastern Germany.

Three of the six countries, - Romania, Poland and Eastern Germany, - nevertheless retain conservative systems : the trading enterprise - whether foreign trade corporation, manufacturer or domestic distributor - remains a link in the chain of command ; trade continues to be controlled chiefly by target. But in Eastern Germany, price determination, which was central is gradually devolving to the VVB's.

Czechoslovakia until mid-1969, and now only Hungary, have, by contrast, sought a radical solution, that is the abandonment of target control. The Hungarian trading enterprise already has considerable freedom to determine its own rate of activity subject to the need to earn a profit ; and its ability to do so is constrained by increasingly indirect regulatory instruments including licensing, quotas, a three-column tariff, explicit export subsidies and the exchange rate.

Bulgaria, finally, aspires to radicalism but is unable to relinquish conservatism. Having adopted a radical programme, and published a three-column tariff, it continues to operate an essentially command economy.

Turning now to the classification of the reforms by type of system, instead of by school, the following pattern emerges. In Romania and Poland, pricing remains centralized, but the increasing use of value targets has given the trading enterprise more scope for independent action. The foreign trade systems of these two countries would therefore seem to be moving from central direct towards central indirect allocation. In Eastern Germany prices are to be determined by the transactions of the VVB's. Trade is to be undertaken by trading enterprises subordinated to the VVB's and subject to targets which are increasingly set in value terms. The foreign trade system seems therefore to be changing from central direct allocation to what would appear to be a market of VVB's.

In Bulgaria, as already mentioned, the published reform programme suggests that the objective is one in which prices are partially determined by market transactions and the trading enterprise is free to maximize profits subject to the exchange rate and the tariff. But in fact Bulgaria is operating a system which resembles the Romanian or Polish : prices are determined centrally ; trading enterprises are subject to targets which are increasingly in value terms : the foreign trade system is thus tending towards central indirect allocation.

In Czechoslovakia until mid-1969, the intention was to allow most prices to be at least partly determined in the market and foreign trade to be left to the management of the enterprise subject to indirect instead of direct controls. The foreign trade system should therefore have gradually been transformed from central direct allocation into a regulated market. In fact, the present system is central indirect allocation but with probably more decentralization than in the conservative countries.

In Hungary, by contrast, the objective remains the regulated market. Since 1968, prices have been partially freed, the exchange rate unofficially devalued, a tariff introduced and explicit export subsidies published. However, the continued use of directives to achieve the bilateral balancing of Eastern European trade means that, while Hungary is progressing towards its objective, it will be some years before it achieves it.

The foreign trade systems which the reforms thus seem to be establishing ^{48/} in Eastern Europe are listed in the following table. This attempts to rank them by order of foreign trade decentralization, starting with the most centralized. But while the extreme rankings are correct, the intermediate ones are subject to error. The table also compares the reformed foreign trade systems to their corresponding general systems and provides a list of the chief characteristics of each system over and above those implied by its title.

Classification of the reformed general and foreign trade
systems in Eastern Europe

	<u>General Systems</u>	<u>Foreign Trade Systems</u>
USSR	<u>Central direct central</u> → <u>indirect allocation</u> : very modest decentralization to association level.	<u>Central direct allocation</u> : trade, finance and industrial ministries chief planning and management units. Foreign trade corporations receive volume targets essentially.
Romania	<u>Central indirect allocation</u> : industrial association (central) becomes chief management unit ; some decision-making power to enterprise.	<u>Central indirect allocation</u> : industrial association becomes chief management unit for exports ; ministries of foreign trade and finance retain considerable direct responsibility for imports as most foreign exchange

General SystemsForeign Trade Systems

surrendered to central authorities ; shift from volume to value targets and consolidation of import taxes and export subsidies increases decision-making power of trading enterprise; tariff in process of elaboration.

Poland

Central indirect allocation : industrial association becomes chief management unit ; some decision-making power to enterprise.

Central indirect allocation : industrial association becomes chief management unit for exports ; ministries of foreign trade and finance retain considerable direct responsibility for imports as most foreign exchange surrendered to central authorities ; shift from volume to value targets and consolidation of import taxes and export subsidies increases decision-making power of trading enterprise.

Eastern
Germany

Central indirect allocation : (with VVB's as chief management units) —————→ regulated market of VBB'S ; increased decision-making power for enterprise.

Central indirect allocation →
market of VVB's : VVB chief management unit for exports ; ministries of foreign trade and finance retain considerable direct responsibility for imports as most foreign exchange surrendered to central authorities ; slow shift from volume to value targets and consolidation of export subsidies gradually increases decision-making power of trading enterprise.

	<u>General Systems</u>	<u>Foreign Trade Systems</u>
Bulgaria	<u>Central indirect allocation</u> : industrial association becomes chief management unit ; some decision-making power for enterprise.	<u>Central indirect allocation</u> : industrial association becomes chief management unit for exports ; ministries of foreign trade and finance retain considerable direct responsibility for imports ; shift from volume to value targets and consolidation of import taxes and export subsidies increases decision- making power of the trading enterprise ; <u>three-column</u> <u>tariff published 1969 but not</u> <u>yet in operation.</u>
Czechoslovakia	Transition towards regulated market 1967-mid-1969. Since then <u>central indirect alloca-</u> <u>tion</u> : industrial association intermediary between central authorities and enterprise ; considerable decision-making power for certain enterprises.	Transition towards regulated market until mid-1969 ; since then <u>central indirect</u> <u>allocation</u> : industrial association becomes in- termediary between central authorities and enterprise for exports ; ministries of foreign trade and finance retain considerable direct responsibility for imports as most foreign exchange surrendered to central authorities ; shift from volume to value targets and consolidation of import taxes and export subsidies gives substantial decision- making power to certain trading enterprises ; <u>new</u> <u>tariff in preparation.</u>
Hungary	<u>Central indirect allocation</u> → <u>regulated market</u> : enter- prise becomes the chief management unit.	<u>Central indirect allocation</u> → <u>regulated market</u> : trading enterprise chief management unit ; controlled by exchange rate, licensing, quotas, 1968 <u>tariff</u> , explicit export subsidies as well as directives to achieve bilateral balancing of East European trade.

A number of conclusions can be read off this table. First, the single Stalinist foreign trade model, which underwent modification on a national basis after Stalin's death, has now clearly given way to a range of models : the USSR retains central direct allocation, Hungary, at the other extreme, is introducing a regulated market. Variations on central indirect allocation remain the most common, however.

Second, as predicted, and although they may generally be identified with reference to only one allocation model, the new foreign trade systems are hybrid. This is most obvious in the case of Hungary and, to a lesser extent, Eastern Germany. But it is true of the other countries too, where the general shift to value targets implies a combination of direct and indirect allocation.

Third, again as predicted, decentralization is a general characteristic of all the foreign trade reforms. It has gone farthest in the case of Hungary where the number of producers with trading rights is the highest and the shift to indirect controls has been the most far-reaching. But even in the USSR where the foreign trade organization has barely changed, it is evident in the modest provisions for closer contacts between producers and traders.

Fourth, the reformed foreign trade systems are of the same type as their general counterparts : there is no case, for instance, of central direct allocation for the economy generally being allied to a regulated market in the foreign sector although this is theoretically possible. This may be explained by the logic of the reforms which seeks to increase the responsibility of the producer in economic activity generally, and so in both manufacture and trade.

Nevertheless, fifth, the reformed foreign trade systems seem to be more centralized than the corresponding general systems. This is evident in the case of the USSR but also seems true of the other countries : their production decisions are increasingly left to associations or enterprises ; their export decisions are gradually devolving to producers ; but their imports often continue to be directly determined by the center.

The prediction that the decentralization of trade would go farthest in the most trade-dependent countries is also confirmed by the East European reforms. A comparison of the preceding table and the text table in Chapter II, shows that Hungary, the second most trade-dependent country in Eastern Europe according to our ranking, has both published the most far-reaching programme of foreign trade reform and implemented it to a substantial degree ; it also shows that Czechoslovakia, the third most trade-dependent country, was implementing the only other radical programme of decentralization until mid-1969. And we note that Bulgaria, the first most trade-dependent country also has a radical programme of decentralization which includes the entry into force of its new tariff. It is true that the order of trade dependence and of the degree of decentralization do not exactly correspond ; nevertheless, as the extent of trade decentralization is a function of other factors besides trade dependence, it remains significant that the three most trade-dependent countries should have adopted or implemented the three most decentralized programmes of trade reform.

On the other hand, the prediction that decentralization would go farthest in economies whose trade was most 'sophisticated', that is which included the most numerous import and export items, cannot be verified. For, owing to the inadequacy of the trade statistics published by the East European countries under the Edinaia Tovarnaia Nomenklatura, or Comecon commodity classification system, the degrees of decentralization indicated in the table cannot be related to the numbers of items traded. To take one instance, Czechoslovakia, East Germany and Romania publish some of their trade statistics classified according to the nomenclature divisions, but do not supply detailed data relating to the corresponding classification numbers. It is perhaps worth noting, however, that resorting to the approximation employed in Chapter II, and equating development and sophistication, does not suggest that decentralization depends on trade sophistication; for Eastern Germany, the most developed of the East European economies, has adopted a programme which is considerably less decentralized than Hungary's, Czechoslovakia's or even Bulgaria's in concept, and which is less decentralized than Hungary's and probably not more so than Poland's in practice; and Czechoslovakia, the second most developed economy in Eastern Europe, adopted a reform programme which was no more radical than Hungary's in conception and which has turned out to be probably only a little more decentralized than Poland's or East Germany's in its implementation.

The Automatic Linking of Domestic and Foreign Prices

The table, finally, makes it clear that the six countries which are abandoning equalization have opted to do so automatically rather than through continuous central intervention. Hungary indeed by introducing a tariff and explicit subsidies, has formally opted for full automaticity, although this is restricted at present by the use of quotas and licensing in East-West trade and of targets in Eastern European trade. In the other countries volume, and often single commodity targets, are admittedly being retained for basic necessities, but multi-commodity value targets increasingly applied to other products. Furthermore, free trade in products not covered by targets, which was experimented with between Hungary and Czechoslovakia in 1968, has been adopted as part of the Comecon Comprehensive Programme of 1971. ^{49/} It appears, therefore, that the six countries, in choosing automaticity, are generally steering clear of single commodity value targets and competitively allocated quotas and are adopting control instruments which ensure a more continuous link between domestic and foreign prices. Furthermore, the simultaneous consolidation of import taxes and export subsidies, ^{50/} which is also indicated in the table, means that the reallocation of resources in accordance with relative world scarcities should be greater than it would have been had the linking of domestic and foreign prices maintained the narrow product differentiation characteristic of the equalization rates.

The Level of Protection

Whether the reforms have led to a change in the level of protection is difficult to tell owing to lack of information. But the following generalizations can be advanced with all due reserve. First, the unofficial devaluations in Poland, Czechoslovakia, Hungary and now Romania have allowed the abandonment of certain import levies, but above all the elimination of export subsidies on probably between one fifth and two fifths of exports in these countries. In

addition, the consolidation of the remaining import levies and export subsidies which has accompanied the shift to multi-commodity value targets in Poland, Czechoslovakia, Romania, and the introduction of an import tariff and explicit export subsidies in Hungary, seems not only to have reduced the number of remaining commodity rates in these countries, but also to have been associated with an administrative cut in the rates themselves. Similarly, in Eastern Germany export subsidies at least and, in Bulgaria, both export subsidies and import levies are very gradually being decreased. The reforms, in other words, seem to be leading to a reduction in nominal protection in all the Eastern European countries except the USSR.

Second, the possibility that the liberalization of trade control in the presence of production or trade monopolies might raise the implicit taxes on imports above nominal rates and above the rates obtaining under target control before the reform, and might lower implicit subsidies on exports below nominal rates and below the rates obtaining prior to the reform, cannot be set aside on the evidence available. But two factors suggest that divergences between implicit and nominal rates so far have been moderate. In the first place, in all the countries which have maintained target control uninterruptedly during the process of liberalization, price control has been retained. In these countries, therefore, no opportunity has been given to monopolist producers or traders to exert their monopoly power as targets broadened. In Czechoslovakia, which was dismantling target control and freeing prices for a period, considerable areas of price control also remained. And the same is still true of Hungary which has been progressively adopting indirect controls on trade and decentralizing price determination since 1968. In the second place, in Czechoslovakia and Hungary the number of production and trade units was multiplied. Thus, as producers and traders in these two countries were being given the freedom to influence prices, they were robbed of at least part of the power to do so. In sum, it seems safe to conclude that implicit taxes on imports and subsidies on exports have either not diverged from the corresponding nominal rates or, in Czechoslovakia and especially Hungary, have done so only modestly. It follows that, even in these two countries, implicit taxes on imports are unlikely to have risen above the rates obtaining under target control prior to the reform, although implicit subsidies on exports may have fallen below the pre-reform rates.

Considering both changes in import and export control, we may therefore, deduce that nominal rates express the level of protection on final products in the countries which have maintained central price determination. On the other hand, in Hungary, and in Czechoslovakia temporarily, there may have been a divergence between the levels of implicit and nominal protection which, depending on the extent of price decentralization, the strength of monopoly and monopsony power in the import and export sectors, the change in the nominal rates, and the balance of trade, may have resulted either in a rise or in a fall in the level of implicit above or below the level of nominal protection. Assuming that it has resulted in a rise in the level of implicit above nominal protection in these two countries, however, it seems unlikely, for the reasons already mentioned, that implicit protection has risen above the level of protection obtaining before the reform.

Nevertheless, the danger that the exertion of monopoly or monopsony power may unintentionally raise the level of protection on final products above the nominal level, and possibly above the level obtaining before the reform, persists in all the smaller Eastern European countries given their large trade and production units, and their stated intention of liberalizing trade control and progressively decentralizing price determination. It therefore warrants the attention of both policy-makers and those negotiating with the Eastern European countries. In this connection, a case study of Hungarian experience since 1968 would, were the relevant data available, clearly be instructive.

Third, the possibility that the unofficial devaluations in Poland, Czechoslovakia, Hungary and Romania could have offset, or more than offset the reductions in nominal and implicit protection, leaving domestic prices unchanged or even raising them, seems to have been verified in certain cases : in Czechoslovakia, and in Hungary in the first two years after the reform, certain imports were subsidized and certain exports taxed because the devaluation would have resulted in a rise in their domestic prices. In these instances, therefore, the level of net protection would have increased had it not been for central intervention. Subsequent policy in both countries, however, has been to cut nominal taxes on imports and subsidies on exports. Moreover, general statements concerning the combination of devaluations and cuts in nominal rates suggests that these have led to some decline in net protection in the countries undertaking them. There is also some indication that this has affected not only the rates on final products but also those on processes of production : in Hungary, for instance, it has been observed that, as a result of the reform, domestic production in a number of sectors was being displaced by better quality imports. 51/ In other words, in Hungary, at least, there seems already to have been a reduction in net effective protection. 52/

We may, therefore, conclude that, in the smaller Eastern European countries, the reforms seem to be resulting in a very gentle reduction in the level of protection. This is being obtained, as trade control alters, by the appropriate setting of tax and subsidy rates, but also, to counter the possible exploitation of monopoly and monopsony power in the more decentralized framework, by the widespread maintenance of price control and the breakdown of large trade and production units. Despite any decrease which, it must be stressed, affects only the smaller Eastern European countries, and the previously mentioned promise of free Comecon trade in certain products, the level of protection probably remains not much lower than it was before the reforms, however.

Finally, it is noteworthy that the tariff schedules introduced, published, or in process of preparation as a result of the reform reproduce the tariff structure to be found in the rest of the world, that is very low tariffs on raw materials, higher rates on semi-finished products, and the highest rates of all on finished products. Thus, although the reforms seem to be lowering the level of both nominal and effective protection, the entry into force of such tariff structures implies that effective rates on the production of finished products must nevertheless exceed nominal rates on the commodities themselves. 53/

Discrimination

It is easier to assess what the reforms imply for discrimination. First, there has been the consolidation of commodity rates and thus a reduction in commodity discrimination. Second, there has been the consolidation of currency exchange rates which promises to lead to a decrease in currency discrimination. Third, the shift from single commodity to multi-commodity targets is in itself a step designed to reduce discrimination. And, other things equal, so is the shift from single volume targets to tariffs. On the other hand, the consolidation of currency exchange rates is more apparent than real. For the Eastern European area is not a single market, but a series of separate bilateral markets. So the single East European exchange rate introduced in Poland, Czechoslovakia, Hungary and Romania is not a unified rate but an average around which the rates required for bilateral balancing are dispersed. Furthermore, the currency rates maintain the discrimination in favour of Eastern European currencies. Given the inconvertibility of the Eastern European currencies this is justified from the point of view of the efficiency of Eastern European trade. But it does not alter the fact that Western European exports are being valued at exchange rates which are less favourable than those used for Eastern European exports.

However, both the discrimination between Eastern European countries and as between Eastern and Western Europe are traditional features of the Eastern European trading systems. The consolidation of commodity rates, of currency rates with respect to Western Europe, and the change in trade control instruments are, by contrast, new departures. We may therefore conclude that the discriminatory character of the Eastern European foreign trade systems has lessened. Moreover, Czechoslovakia's, Poland's and Romania's membership of GATT, and Hungary's proposed accession to it, should permit the elimination of the crassest manifestations of anti-Western discrimination. Note, however, that as it is the smaller Eastern European countries which are taking action. The USSR, for the moment, remains aloof.

Efficiency

As the Eastern European countries are reducing waste, relating domestic to foreign prices, probably decreasing protection, and reducing discrimination, one is tempted to conclude that the foreign trade systems of the Eastern European countries are more efficient. But the situation is a second-best one, that is one in which the constraints placed upon the maximization of real income are more numerous than factor endowments, technology and tastes. This being so, we cannot a priori say that the removal of a given divergence between domestic and foreign prices will increase real income.

It can, of course, be argued that the reforms have affected the entire foreign trade sector, so that the inefficiency of foreign transactions is likely to have been reduced. The analogy here would be that while the reduction of a tariff on inputs will raise protection on manufacturing, a general reduction of tariffs affecting both inputs and outputs may reduce it. Or it can be argued that the inefficiency of the previous foreign trade systems was such that any reduction in the divergence between domestic and foreign prices must improve matters. The analogy here would be that, if all countries suffer from negative

effective protection, then even the reduction of a tariff on inputs must reduce negative protection on manufacturing. But, given the existing production, consumption and trade distortions, the evidence to prove that the changes undertaken are improving efficiency cannot be collected in practice. The possibility that the reforms are temporarily leading to a reduction in real income in the countries undertaking them cannot, therefore, be excluded.

What can be said on the basis of available knowledge, however, is that such a result is least likely in Hungary, where a comprehensive array of measures was introduced rapidly, and is most likely in the more cautious countries. Moreover, over time, the progressive rationalization of organization and the reform of pricing must increase the likelihood of an improvement in efficiency in the countries resorting to reform.

The Future

As for the future, it seems likely that the importance attached to efficiency will lead, first, to the further decentralization of foreign trade. This is to be expected a priori, but is all the more probable as the concern with efficiency has already led to trade decentralization throughout Eastern Europe. The decentralization of foreign trade is unlikely to be as extensive as the decentralization of the economic system in general, however. For, historically, national authorities have tended to regulate foreign transactions more than domestic economic activity. And the central control of imports is likely to remain stricter than the control of exports. For modern states typically control the first more than the second. Finally, the association of trade dependence with the decentralization of the foreign trade system suggests that it is in the most trade-dependent countries that the decentralization of foreign trade will be the most far-reaching. So, again, the USSR is likely to be least affected. And it is in the trade-dependent countries that the transition from the direct to the indirect control of trade should go the farthest.

The concern with efficiency is likely, further, to promote the move away from the 'autarkic' price system achieved under equalization. Thus more de facto devaluations should follow those which have already occurred. And there should also be a reduction in net protection as export subsidies in particular are progressively eliminated. In other words, the reintegration of the Eastern European economies into the world economy is likely to be a feature of the coming decade.

Convertibility

The question which then arises is how far the processes of decentralization and reintegration are likely to go. The answer seems to be as far as is necessary to achieve and maintain currency convertibility. To achieve it is the goal of the Comecon's Comprehensive Programme. ^{54/} And convertibility was explicitly stated to be the objective of reform in Bulgaria, Czechoslovakia and Hungary in the late nineteen-sixties.

Currency convertibility may be defined as the free sale and purchase on foreign exchange markets of a country's currency for current transactions at least. Under perfect competition it would mean the equality of domestic and

foreign prices at a given exchange rate. In practice the IMF charter stipulates the maintenance of a single rate of exchange between the national and foreign currencies and the removal of quantitative restrictions on current payments. ^{55/} It does not, therefore, exclude the control of imports by tariff.

Given the high proportion of intra-Comecon trade, ^{56/} the continued bilateralism of intra-Comecon payments and, hence, the maintenance of multiple currency exchange rates within Comecon, currency convertibility in Eastern Europe would seem to require, as a first step, either a substantial reduction in the percentage of intra-Comecon trade, or the multilateralization of intra-Comecon payments. The first alternative seems out of the question. For if the percentage of intra-Comecon trade has decreased in all the Eastern European countries, it has done so gradually and, for political reasons, would be unlikely to go so far as to enable the Eastern European countries to envisage convertibility. The second alternative has been discussed within Comecon for a number of years and one of the chief architects of the European Payments Union (EPU) has been brought in for consultation. ^{57/} But so far attempts at the multilateralization of Eastern European payments have failed. In 1957 and again in 1964 under the International Bank for Economic Cooperation (IBEC) provisions penalizing deficit countries were omitted : as deficit countries were required to pay neither a proportion of their imbalances in convertible currency nor sufficiently high interest on outstanding debt, surplus countries predictably preferred to retain strict bilateral balancing. The Comecon's Comprehensive Programme now promises that measures to extend multilateral settlements will be elaborated between 1971 and 1973 ^{58/} and stipulates that Eastern European countries should decide upon the introduction of unified exchange rates by 1980. ^{59/} No more precise provisions are listed, however. One is therefore left with the impression that, for the time being, no material advance is being made towards the establishment of a payments union and so the introduction of convertibility.

Beyond the creation of a payments union, the USSR seems bent on setting up a Comecon currency area. The currency of the area would be the 'transferable ruble' which is described as the unit of account of the present IBEC arrangements. It has the same gold content as the Soviet ruble but, it is stressed, is quite separate from it. Member countries' currencies would be convertible into the 'transferable ruble' which, presumably, would be used to settle balances between members and would serve as the reserve medium of the individual countries. The 'transferable ruble' would, in turn, (somewhat confusingly) be convertible into foreign currencies. In settling balances with the rest of the world, member countries would therefore exchange 'transferable rubles' for the necessary amount of foreign exchange. ^{60/}

The chief obstacle to the creation of such an area is the preponderance of the USSR in Eastern European payments. For this might be interpreted as giving it a preponderant share of the seignorage accruing from the creation of the currency for the area and a preponderant say in determining the quantity of money in the area. This is no doubt unacceptable to a number of the smaller countries in the area. If, therefore, a currency area is to succeed the proposed payments union, measures will have to be devised to ensure the smaller countries against domination by the USSR.

The convertibility of individual Eastern European currencies would also have to be achieved by way of a Comecon payments union. As it is envisaged within decentralized systems of allocation, moreover, its maintenance would require the creation of a monetary and fiscal apparatus enabling the countries concerned to maintain internal and external equilibrium in the absence of any direct interference in current international transactions. Hungary has begun to equip itself with such an apparatus, Czechoslovakia was doing so. But in the other countries little if any progress would seem to have been made in this direction. The convertibility of Eastern European currencies thus cannot happen overnight as certain declarations have sometimes suggested. 61/

In sum, Eastern European convertibility is a long-term proposition and it would be rash to expect it in any form before the middle of the 1980's at the very earliest. On the other hand, the decentralization and the concern with efficiency of the smaller Eastern European countries will increase the pressure for a payments union. Concurrently, this will be urged on Eastern Europe by the USSR to try and maintain the cohesion of the Comecon countries as decentralization encourages centrifugal forces. A European détente might, moreover, favour the creation of such a union. For the use of convertible currencies in part payment of imbalances would then become less ideologically repulsive. The conditions for taking the first step towards convertibility may thus be better now than they have been at any point since the multilateralization of Comecon payments was first talked of in the mid-nineteen-fifties.

NOTES

- 1/ As just mentioned the efficiency of trade is discussed in detail in Appendix I. But to show the compatibility of protection and discrimination, and the incompatibility of equalization, with the efficiency of trade for the single country, on the one hand, and to facilitate the analysis of the changes taking place in the Eastern European foreign trade systems, on the other, the discussion is undertaken within a framework which differs from that used for the analysis of the efficiency of economic systems as a whole in Chapter II. It may therefore be useful to specify the connection between the theoretical framework of this and the preceding chapter.

In Chapter II, we analysed countries, that is entire economic systems. And we considered their efficiency generally, that is without discussing the specific conditions of efficient foreign trade. In this sense, then, we considered closed systems. Internationally our analysis would thus apply to a closed world system in which countries replaced individual producers and consumers and factors were free to move between countries.

In this chapter, we turn to the conditions of efficient foreign trade for individual countries. We thus consider countries, that is again complete systems, but which are open, and as a result also constitute units within the closed world system. The consequences of this change in the frame of reference are two. First, it is clear that whereas in the absence of foreign trade, the efficiency of allocation in the national system requires no exploitation of monopoly or monopsony power by individual producers and consumers and no divergence resulting from production or consumption externalities, in the presence of trade it additionally requires no divergence due to externalities attached to the third economic activity considered, namely foreign trade. This is rarely explicitly stated, perhaps because the general discussion of allocation does not consider trade to be a separate activity but subsumes it under consumption or production. But within the framework of the theory of international trade, this no longer seems a tenable position. Second, as the national systems are units within the international system, it follows that the exploitation of monopoly or monopsony power on international markets is a condition of their efficiency, although it continues to preclude the efficiency of the system as a whole. Given these two changes, it is clear that free market allocation will be efficient under even more restrictive conditions when it is practised in an open than when it is practised in a closed system, whereas the efficiency of central allocation will not suffer from these restrictions. On the other hand, as we pointed out in the previous chapter, the cost of central allocation will increase with trade.

- 2/ See Chapter I for the first, and Appendix I of the present chapter, for the second.
- 3/ Free trade amongst all members of the international system will, like free market allocation, be efficient given perfect competition and an absence of externalities. As the market in the international system will be composed

of countries trading with each other, perfect competition will, however, have to be between countries and the absence of externalities will have to be an absence of externalities attached to trade.

Free trade for the single country will also be efficient in these conditions. But it follows from 1/ that it will also be efficient if there is an absence of externalities and if its trading enterprises exploit any monopoly or monopsony power which it may have on international markets.

- 4/ There are of course countless sub-species. But since the purpose of this section is not to draw up a catalogue of trade control devices but to identify the main control mechanisms and to relate them to the various foreign trade systems, we discuss only the chief classes of instruments. Furthermore, we consider only the instruments designed to affect trade and not those which affect it incidentally. Thus, though it may be shown that an ad valorem tariff imposed upon a product at a given rate is equal to a consumption tax and a production subsidy imposed upon the product at the same rate, the effect on trade of consumption taxes and production subsidies is not examined whereas the effect of a tariff is.
- 5/ Bhagwati points out that only the competitively allocated quota will be fully taken up and considers the implications of this finding for the single commodity volume quota. See BHAGWATI, Jagdish ; "On the Equivalence of Tariffs and Quotas", Trade, Growth and Balance of Payments, Robert E. Baldwin et al. Essays in Honor of Gottfried Haberler. Amsterdam, North-Holland Publishing Company, 1965, pp. 53-67.
- 6/ See Appendix III for a detailed discussion of trade control and the linking of domestic and foreign prices.
- 7/ Appendix IV discusses the equivalence of tariffs or subsidies, quotas and targets.
- 8/ Hence we shall say that one instrument reduces protection as compared to another if, as compared to the other, it increases imports or decreases exports given the same rate of divergence between domestic and foreign prices, and if it increases imports or decreases exports and lowers the rate of divergence between domestic and foreign prices, but not if it simply lowers the rate of divergence between domestic and foreign prices, leaving the level of trade unchanged.
- 9/ For a discussion of discrimination and efficiency in terms of multiple commodity and currency exchange rates, see Appendix I.
- 10/ If the trader is a perfect competitor in the markets for the commodities for which the multiple commodity targets and quotas are established, he will maximize profits by maintaining the same rate of divergence between domestic and foreign prices for every product traded. He will, therefore, not discriminate between the products to which the quota or target applies. He will only do so if he is a monopolist or monopsonist in the markets of the various products traded. Thus the perfectly competitive multi-commodity quota or target will be no more discriminatory than the tariff.

- 11/ KEREMIDCHIEV, Emil I., et al. : "Trade Prospects in Socialist Countries : Bulgaria - Conditions, Policies, Approaches." UNCTAD, TD/B/253, 20 August 1969, p. 69.
- 12/ RURARZ, Z.M. : "Trade Prospects in Socialist Countries : Poland - Conditions, Policies, Approaches." UNCTAD, TD/B/246, 14 July 1969.
- 13/ For the reform as a whole see Loi sur l'activité de commerce extérieur, de coopération économique et technico-scientifique de la République socialiste de Roumanie, Article 7. Bucarest, 1971.
- 14/ By October 1969, fifteen joint-stock companies had been created in Czechoslovakia. For details see SEREGHYOVA, J. : "Jak probíhají organizacní změny zahraničním obchode." Zahranicni obchod. No. 10, 1969.
- 15/ In the USSR, however, the granting of trading rights to enterprises has been discussed.
- 16/ "Directives on the Perfecting of Management and Planning of the National Economy in Keeping with the Conditions of the New Stage of Romania's Socialist Development", adopted by the Central Committee of the Romanian Communist Party on 5 and 6 October, 1967. Romanian Foreign Trade, No. 1, 1968.
- 17/ Sbirka zakonu : Vyhlasaka MZO 121/1968.
- 18/ Hospodarske noviny, 21.8.70.
- 19/ Balassa writing at the beginning of 1970 quoted a figure of 10-15 per cent of exports for Hungary. BALASSA, Bela : "The Economic Reform in Hungary". Economica, February 1970, p. 15.
- 20/ Hospodarske noviny, 25.9.70.
- 21/ United Nations Economic Commission for Europe : "Industrial Co-operation". Economic Bulletin for Europe. Vol. 21, No. 1, p. 80.
- 22/ POPESCU, P.N. : "Trade Prospects in Socialist Countries : Romania - Conditions, Policies, Approaches." UNCTAD, TD/B/30, 16 June 1970, p. vii.
- 23/ RURARZ, p. 8.
- 24/ STOLZE, K. : Zu den Problemen der innerbetrieblichen wirtschaftlichen Rechnungsführung des Aussenhandelsbetriebes." Sozialistische Aussenwirtschaft. Heft 10, 1969, pp. 35-39.
- 25/ PRYOR, Frederic L. : The Communist Foreign Trade System. London, George Allen and Unwin Ltd., pp. 58, 252.
- 26/ Rechtsvorschriften zur Durchführung der in der Grundsatzregelung für die Gestaltung des ökonomischen Systems des Sozialismus in der Deutschen Demokratischen Republik im Zeitraum 1971 bis 1975 enthaltenen Aufgaben. (Bestätigt vom Ministerrat der Deutschen Demokratischen Republik am 29. April 1970 als Grundlage für die Ausarbeitung des Perspektivplanentwurfes 1971 bis 1975 und des Entwurfes des Jahresvolkswirtschaftsplanes 1971), p. 29.

- 27/ Ibid., p. 30
- 28/ A detailed description of these instruments is given in the following section.
- 29/ Hospodarske noviny, 4.9.70.
- 30/ Report of the Praesidium of the Central Committee of the Communist Party of Czechoslovakia, and the Resolution on the Main Questions of Economic Policy, adopted by the Central Committee, 28-30 January 1970. Summarized in PRAVDA, M., NOVACEK, V., VENERA, Z. : "Trade Prospects in Socialist Countries : Czechoslovakia - Conditions, Policies, Approaches". UNCTAD, TD/B/305, 17 June 1970, pp. 9-10.
- 31/ As in the case of Czechoslovakia, the description of these instruments is left to the next section.
- 32/ See, for instance, RURARZ, p. 47 for Poland.
- 33/ BONEV, L. : "La politique douanière de la Bulgarie". Le Commerce extérieur bulgare. No. 2, 1969, p. 42.
- 34/ United Nations Conference on Trade and Development : "Review of Trade Relations among Countries having Different Economic and Social Systems". TD/B/251, 14 July 1969, p. 8.

It has been estimated that tariffs at present affect some 10 per cent of trade. See BRZAK, V. and MARSIKOVA, D. : "New Methods of Management and Organization of Foreign Trade in Socialist Countries. A Comparative Analysis." Zahranicni obchod. Nos. 8-9, 1969. In translation in Soviet and Eastern European Foreign Trade. Vol. VI, Fall-Winter 1970, p. 242.

- 35/ BRZAK and MARSIKOVA, p. 253.
- 36/ Economic Bulletin for Europe. Vol. 20, No. 1, p. 47. BRZAK and MARSIKOVA, p. 247.
- 37/ United Nations Economic Commission for Europe : Economic Survey of Europe in 1967, chapter II, p. 69 and Economic Survey of Europe in 1968, p. 110. The formula used is

$$DM^r - P_f \cdot C^r$$

where

D = export price less foreign expenses
in terms of "foreign exchange
zlotys" ;

M^r = rate of exchange into domestic
zlotys which differs according as
to whether trade takes place with
socialist, capitalist, or developing
countries ;

P_f = average factory price or actual
internal transaction price if the
former does not exist ;

C^r = specially prepared coefficients for each product, consisting of three elements as a rule : an adjustment intended to bring the cost of materials used and expressed in domestic prices to the level of world prices ; a margin to cover the expenses of the foreign trade corporation ; and a uniform sales tax rate.

38/ JASCUK, B. : "Kierunki usprawnienia systemu bodzcow materialnych w gospodarce uspołecznionej." (Directions of improvement in the system of material incentives in the national economy.) Zycie Gospodarcze, 24 May 1970.

39/ Rechtsvorschriften zur Durchführung, pp. 99-103.

40/ Ibid., p. 88.

41/ See, for instance, HEJDUCK, F. : "Problems of Prices and Price Relations under Socialism." Sozialistische Aussenwirtschaft, Heft 4, 1968.

42/ Hospodarske noviny, 9.8.68. The proposed system of exchange rates, subsidies and levies is usefully tabulated in United Nations Economic Commission for Europe : Economic Bulletin for Europe, Vol. 20, No. 1, p. 48, and is reproduced below with slight modifications :

	<u>Equivalent in Kcs</u>	<u>Percentage rates of adjustment</u>
US dollar at official parity	7.20	--
Rouble at official parity	8.00	--
Rouble at unofficial 'directional' rate	18.00	125
Rouble at unofficial 'directional' rate <u>plus</u> export subsidy or import levy	a/	a/
US dollar at unofficial 'directional' rate b/	27.00	275
US dollar at unofficial 'directional' rate <u>plus</u> export premium or import levy c/	31.05	275 + further 15
US dollar at unofficial 'directional' rate plus export subsidy	31.00 - 34.00 d/	275 + further 15 to 26 d/

a/ For given categories of machinery products the same rates applied to export subsidies and import levies. There were no changes in the rates of subsidy for raw material imports as compared with 1968 - except for those items for which uniform domestic prices were set in 1968 whatever their area of origin (agricultural products ; semi-finished metal products ; chemicals, etc.). Otherwise subsidies were to be granted exceptionally and were to be reduced by 20 per cent as compared with 1968.

- b/ On the import side, applies only to machinery.
- c/ Rate applying to all imports except machinery.
- d/ Export subsidies above the upper limit of 34 per cent to be reduced by 20 per cent.

- 43/ Exporting manufacturers were exempted from taxation whenever their taxes did not exceed Kcs 100,000 per annum.
- 44/ "About the Export of Consumer Goods in Short Supply." Svet Hospodarstvi, No. 44, April 10, 1970.
- 45/ Except for the statement concerning export taxes, this paragraph is based on BUDIN, Jaroslav : "Economic Instruments in Foreign Trade in 1970." Hospodarske Noviny, No. 47, 21 November, 1969, and BOLNAR, V. : "The Foreign Exchange Aspects of the Economic Reform." Nove Slovo, No. 14, 9 April, 1970.
- 46/ In January 1971, 700 positions of the 1968 tariff are reported to have been altered, 80 per cent of the changes having affected machinery and equipment where 20 - 30 per cent reductions were introduced. Neue Zürcher Zeitung, 13.1.71.
- 47/ Balassa states that about 80 per cent of exports are subject to subsidies. BALASSA, p. 16.
- 48/ Rather than those described in their blue-prints.
- 49/ Comprehensive Programme for the Further Extension and Improvement of Co-operation and the Development of Socialist Economic Integration by CMEA Member Countries. Moscow, CMEA Secretariat, 1971, pp. 41-42.
- 50/ Which could arise simply from a broadening of targets but have, in fact, more often been administratively set.
- 51/ United Nations Economic Commission for Europe : Economic Survey of Europe in 1969 : Part II : The European Economy in 1969. Chapter I, p. 44. Draft. It is noteworthy in this respect that one of the Hungarian complaints against the 1968 Hungarian-Czechoslovak trade agreement which included indicative lists for specified industrial consumer goods to be exchanged at free prices, was that Czechoslovak were undercutting Hungarian products.
- 52/ The formula for effective protection given the exchange rate, perfect competition, and fixed input ratios is

$$g_t = \frac{t_j - \sum_{i=1}^m a_{ij}t_i}{1 - \sum_{i=1}^n a_{ij}}$$

- where t_j is the nominal rate on output j
 t_i is the nominal rate on input i into output j
 a_{ij} is the coefficient of intermediate inputs per unit of output

Effective protection is therefore the rate of protection on value added in industry j , that is on the process of producing output j .

- 53/ It follows from the preceding formula that, if the tax rate on inputs is lower than the tax on the output, the tax rate on value added in the industry producing the output will exceed the tax on the output.
- 54/ Comprehensive Programme, pp. 47-54.
- 55/ Articles of Agreement of the International Monetary Fund, Article VIII.
- 56/ 50-75 per cent of the trade of an Eastern European country is transacted with other Comecon members.
- 57/ Professor Robert Triffin.
- 58/ Comprehensive Programme, p. 48, paragraph 8.
- 59/ Ibid. p. 50, paragraph 16.
- 60/ For some indication as to the thinking on this subject, see *ibid.* pp. 47-54.
- 61/ Czechoslovakia in 1968, for instance, was announcing convertibility for the early nineteen-seventies. United Nations Economic Commission for Europe : Economic Bulletin for Europe, vol. 20, no. 1, p. 48.

APPENDIX ITRADE EFFICIENCY AND PROTECTION, DISCRIMINATION AND EQUALIZATION :
CONCLUSIONS FOR THE SINGLE COUNTRY

This note considers the compatibility of efficient trade with policies of protection, discrimination and equalization in the case of the single country. It concludes that a single country can trade efficiently while pursuing policies of protection and discrimination but that it cannot do so if it practises equalization. These propositions are summarized algebraically. The conclusions reached imply the outline of a reform of the foreign trade systems of Eastern Europe which have been characterized by equalization, protection and discrimination. In closing, therefore, the chief features of the suggested reform are listed and briefly compared to actual developments.

I. TRADE EFFICIENCY

The necessary condition for the efficiency of trade in a given country, that is for the maximization of its real income ^{1/} through trade, is that the marginal social cost of a unit of foreign exchange in terms of any export be equal to its marginal social value in terms of any import. The meaning of this definition will be clear if we take a few examples.

If, for instance, the marginal social cost of a unit of foreign exchange in terms of one exported product were to exceed the marginal social cost of a unit of foreign exchange in terms of other exports, the real income of the trading community would obviously not be maximized : by reducing exports of the commodity earning foreign exchange at the higher cost and expanding those earning it at the lower cost, the community could obtain the same amount of foreign goods and services more cheaply. Similarly, the community's real income would not be maximized if the marginal social value of a unit of foreign exchange were higher in terms of one import than in terms of the others ; by expanding the import of the goods with the higher value and decreasing the imports of the goods with the lower value, the community could increase the value of its imports with no change in the amount of its exports. And again, if the marginal social value of a unit of foreign exchange in terms of all imports were to exceed or fall short of its marginal social cost in terms of all exports, the community could increase its real income by expanding or reducing trade until it had equated the marginal social value of a unit of foreign exchange in terms of any import to its marginal social cost in terms of any export.

Since the marginal social cost of a unit of foreign exchange is its marginal cost to the community in terms of real resources, and the marginal social value of a unit of foreign exchange is its marginal value to the community in terms of real resources, the necessary condition for efficient exchange can also be formulated alternatively as an unified real exchange rate.

Efficiency and Protection

The condition is compatible with trade taxes and subsidies and, hence, with protection which we define as the policy of preference for national over foreign production implemented by restrictive explicit or implicit taxes on imports which favour domestic production, and by expansionary explicit or implicit subsidies on exports of domestically produced goods. But the extent to which efficiency and protection are compatible depends upon the meaning attributed to real income.

This can be defined, first, as it is in the traditional theory of tariffs, in terms of the satisfaction derived by individuals from their personal consumption of goods and services. If so, the efficiency of foreign trade, like the efficiency of allocation in general, will require the equation of marginal cost and value to price except in the presence of imperfect competition or externalities.

Thus, if we assume that the domestic economy is efficient, that the country is a perfect competitor on foreign markets and that no externalities are attached to trade, then the efficiency of exchange will be ensured by equating domestic to foreign prices when these are expressed in a common currency at a given exchange rate. For domestic prices will then be equal to the marginal private and social cost of exports and to the marginal private and social value of imports, and foreign prices will be equal to the marginal private and social value of exports and to the marginal private and social cost of imports to the trading country. Under these conditions, therefore, the efficiency of trade will be achieved in the absence of trade taxes and subsidies and, hence, in the absence of protection.

But we can also formulate the condition under which trade will be efficient within this framework by referring back directly to the previous section. For the equation of domestic to foreign prices at a given exchange rate implies that when expressed in their respective currencies the ratio of the domestic to the foreign price will be the same whatever the export and whatever the import. In other words, in this case, the marginal social cost of a unit of foreign exchange will be the same whatever the export and will be equal to the marginal social value of a unit of exchange whatever the import given the maintenance of a unified nominal rate of exchange.

This is a formulation which we shall be referring to throughout the analysis. Note, therefore, that 'unified nominal exchange rate' need not be the equivalent of 'single official exchange rate'. For, in contrast to the single nominal rate, the single official rate is compatible with tariffs and subsidies on trade, and, hence, with a system of multiple nominal rates.

But suppose, next, that the country is a monopsonist in the market for a given import, then the equation of the domestic to the foreign price will not maximize real income. For this will require the equation of the marginal social cost of the import, which will lie above its foreign price, $\frac{2}{1}$ to its marginal social value, which will be equal to its domestic price. Efficient trade will thus require the restriction of imports to the point where, expressed in a single currency, the marginal social value and cost of the import are equal. But the

restriction will mean a divergence between domestic and foreign prices and so an implicit, if not explicit, tax on the import. Thus, to the extent that the product imported is also produced domestically, the efficiency of trade will entail protection. Moreover, the introduction of the tax on the import will mean that there is no longer one but two nominal exchange rates. In other words, given the monopsony (or the monopoly) power of the trading country, efficiency will require a departure from the unified nominal exchange rate, that is multiple commodity rates.

Or suppose that an external economy is attached to the export of a given product, then the equation of the domestic to the foreign price will again not maximize real income for this will require the equation of the domestic price to the foreign price plus the benefit to the country of the economy attached to the export. The efficiency of trade will thus require the expansion of exports to the point where, expressed in a single currency, the marginal social cost and value of the export are equal. But this will entail a divergence between domestic and foreign prices and, hence, an implicit, if not explicit, subsidy on exports. Thus, assuming that the export is domestically produced, the efficiency of trade will imply protection. Moreover, as in the previous case, the introduction of the export subsidy will mean that there is no longer one but two nominal exchange rates. So the existence of an external economy (or diseconomy) will again mean that a departure from the unified nominal rate, that is multiple commodity exchange rates, are necessary for efficiency.

We see, therefore, that if we define real income as the satisfaction of individual preferences, protection may be required for efficient exchange in two cases which are the monopoly/monopsony power of the trading country in international markets, and the existence of externalities attached to foreign trade. Moreover, these two sets of circumstances will always require a departure from unified nominal exchange rates, that is multiple commodity rates.

But real income need not be defined in terms of the satisfaction derived by individuals from their personal consumption of goods and services. To go to the other extreme, it can be defined, second, in terms of the satisfaction derived by the community of individuals as a collectivity from its consumption of goods and services. Marxist theory, to the extent that it concerns itself with international trade, ^{3/} thus considers trading countries as collective (and political) units on international markets. ^{4/} However, the collectivist assumption, which implies the substitution of collective for individual preferences, ^{5/} does not alter our previous conclusions as to the compatibility of protection and efficient exchange. For, to the extent that the economy in isolation is efficient so that the prices of commodities are equal on the one hand to their marginal value to the collectivity and, on the other, to their marginal cost to the collectivity, it follows for the same reasons as when real income was defined in terms of the personal satisfaction of individuals, that foreign trade will be efficient in the absence of taxes and subsidies on trade unless the country has monopoly/monopsony power in foreign markets, or externalities are attached to trade. In these two cases, protection may be and multiple commodity rates will be, required for efficiency just as they were under the previous definition of real income.

But we can also stop half-way and define real income, third, as the satisfaction derived by individuals from both individual and collective consumption, where the satisfaction of one set of preferences requires the sacrifice of the satisfaction of the other. This definition probably corresponds most closely to the conception of real income generally held in both the West and Eastern Europe today and is increasingly being introduced into economic analysis. Dissatisfaction with the traditional theory of tariffs as an explanation of protection and tariff bargaining has, for instance, led Johnson to redefine real income as the satisfaction derived by individuals from both their personal consumption of goods and services and their collective consumption of goods and services provided by the government at the expense of private consumption, and to use this definition to construct a broader theory of protection and tariff bargaining and to offer an explanation of why countries should wish to form customs unions. ^{6/} And a similar definition of real income seems to have been used in recent work on the theory of effective protection. ^{7/}

But if one conceives of the satisfaction of one set of preferences as taking place at the sacrifice of the satisfaction of the other, and if one further supposes that the assertion of the collective will requires government action, (the individual will can, by definition, only be asserted by the individual) then it follows that the satisfaction of collective preferences requires government intervention to remove resources from private consumption and channel them into collective consumption, and that it may, as Johnson assumes, require intervention by means of trade taxes and subsidies. If so, it follows that the maximization of real income through trade will warrant taxes and subsidies on trade not only when the trading country considered has monopoly/monopsony power in foreign markets, or externalities are attached to trade, but also when there are collective preferences to be satisfied. In these three cases, therefore, protection may be, and multiple commodity exchange rates will be, required for efficient trade. In other words, under this definition of real income, more protection and more numerous commodity exchange rates, will be necessary for efficiency than under the previous two.

Efficiency and Discrimination

The preceding section has shown that multiple commodity rates, that is discrimination on a commodity basis is compatible with efficient trade. But the definition of efficient trade which, as we have seen, can be expressed in terms of the marginal social cost and value of a unit of foreign exchange, implies that where there is more than one foreign exchange, that is where the currencies of the trading nations are separated by inconvertibility, there should be more than one real exchange rate. In other words, there should be a departure from the unified real exchange rate on a currency basis, (and hence a departure from the unified nominal exchange rate on a currency basis), or currency discrimination.

Thus, suppose that country A trades efficiently with two countries C and D and that the marginal social cost and value of a unit of C-currency is higher than that of a unit of D-currency. If C's and D's currencies were convertible, A could reduce the cost of its imports by expanding its exports to D, where the cost of a unit of foreign exchange is low, and reducing its exports to C, where

the cost of a unit of foreign exchange is high. Or it could increase the value of its imports at a given cost in terms of exports, by expanding its imports from C, where the value of a unit of foreign expenditure is high, and reducing its imports from D where the value of a unit of foreign expenditure is low. In other words, it could improve the efficiency of its trade. But if the currencies of C and D are inconvertible, this is impossible. A will not be able to reduce the cost of its imports by expanding exports to D and reducing those to C. For exports to D will not, because of the mutual inconvertibility of their currencies, buy imports from C. The only outcome of expanding exports to D at the expense of those destined for C will thus be to reduce imports from C. Similarly, A will not be able to increase the value of its imports at a given cost in terms of exports by expanding imports from C and reducing those from D. For, again, A will not be able to use the receipts of its exports to D to buy imports in C. Given the inconvertibility of C's and D's currencies, therefore, the efficiency of its trade will require A to achieve a unified real rate of exchange in terms of both C's and D's currencies separately. Moreover, this will be necessary even if only C's or D's currency is inconvertible.

We have spoken of discrimination between commodities and currencies. But note that, if trading countries specialize completely, so that each exports only one, and a different, good, and if currency areas and countries are identical as they were in our example and they are in a bilateralist world, discrimination by commodity will amount to discrimination by currency, and vice-versa.

Efficiency and Equalization

But if efficient exchange is compatible with the pursuit of policies of protection and discrimination, it is incompatible with equalization. This is the policy of setting domestic prices and then equating foreign prices to them by means of compensatory taxes and subsidies, so as to seal off domestic from foreign prices. It may be described as a policy of price-autarky. That it is inefficient will be apparent if we consider a country whose real income is expressed in terms of individual or of collective preferences, which is a perfect competitor on foreign markets and whose trade is not distorted by externalities. In this case, we saw that the efficiency of trade would be achieved if the country maintained a unified nominal exchange rate. But this would be out of the question, for the country practising equalization for, by definition, it refuses to equate domestic to foreign prices at a given exchange rate. Thus, whereas protection and discrimination may be required for efficiency, efficiency requires the removal of equalization.

This conclusion has an interesting corollary for trade control. This can be achieved by instruments which directly control the quantity of trade or by instruments that directly affect the price of the traded goods. The first include the target which determines the volume or value traded and the quota which sets an upper limit on the volume or value traded. The second include tariffs and subsidies. As the first introduce limits to the quantities which can be imported or exported, they also introduce limits on the extent to which domestic can respond to foreign prices. They thus include an element of equalization. It follows that if governments are to avoid the inefficiencies associated with equalization, they should either be prepared to adjust quantitative instruments continuously or forego their use entirely.

II. ALGEBRAIC SUMMARY

The preceding propositions can be summarized algebraically. Thus

1. The necessary condition for efficient exchange for the single country may be written

$$\frac{vx_1^A}{vx_1^B} = \frac{vx_2^A}{vx_2^B} = \dots = \frac{vx_n^A}{vx_n^B} = \frac{vy_1^A}{vy_1^B} = \frac{vy_2^A}{vy_2^B} = \dots = \frac{vy_n^A}{vy_n^B} \quad (1)$$

where v stands for marginal social value to country A, $x_1 \dots x_n$ for the exports of country A, $y_1 \dots y_n$ for the imports of country A, and B stands for country B, or an area B of countries whose currencies are convertible. Thus vx_1^A , for instance, means the marginal social value of export 1 in A, that is expressed in A-currency, and vx_1^B means the marginal social value to A of A's export 1 in B, that is expressed in B-currency. The condition states that the value of real resources which A has to give up in terms of any export in order to obtain an additional unit of B's currency will be equal to the value of real resources in terms of any import which A obtains by exchanging an additional unit of B's currency in B's market.^{8/} The necessary condition for efficient exchange in the case of the single country is therefore a unified real exchange rate.

2. i. Assuming that real income measures the satisfaction accruing to individuals either from their personal consumption of goods and services or from their collective consumption of goods and services, and that A's economy in isolation is efficient, then

a) if A has no monopoly/monopsony power on foreign markets and if no externalities are attached to trade, (1) will be satisfied provided

$$\frac{Px_1^A}{Px_1^B} = \frac{Px_2^A}{Px_2^B} = \dots = \frac{Px_n^A}{Px_n^B} = \frac{Py_1^A}{Py_1^B} = \frac{Py_2^A}{Py_2^B} = \dots = \frac{Py_n^A}{Py_n^B} \quad (2)$$

where P stands for prices. For under these assumptions the price of exports and imports in A will measure their marginal social value in terms of A-currency, and the price of A's exports and imports in B will measure their marginal social value to A in terms of B-currency.

In this case, therefore, condition (1) will be fulfilled in the absence of taxes and subsidies on trade and, hence, in the absence of protection. It will be fulfilled provided the country maintains a unified nominal exchange rate. (Note that the unified nominal has no necessary connection with the single official exchange rate).

b) If A has monopoly/monopsony power in foreign markets or externalities are attached to foreign trade, the fulfilment of condition (1) will require trade taxes and/or subsidies and may, thus, require protection. The introduction of trade taxes and subsidies will mean a departure from the unified nominal exchange rate on a commodity basis, that is multiple commodity exchange rates.

Thus, if A has monopsony power in the market for y_2 , the marginal social value of y_2 to A will be equal to Py_2^A while the marginal social value which it is prepared to give up to obtain a unit of y_2 will lie above Py_2^B .^{9/} Efficient trade will therefore require a restriction of imports to the point at which the ratio of the marginal social value of y_2 to A expressed in A's currency and its marginal social value expressed in B's currency is the same as for the other traded goods. The restriction of y_2 will entail a tax on y_2 . Thus, in so far as y_2 is also produced domestically, efficiency will entail protection. And the introduction of the import tax will mean a departure from the unified nominal exchange rate. Formally, therefore, (1) will be fulfilled provided that

$$\frac{Px_1^A}{Px_1^B} = \frac{Px_2^A}{Px_2^B} = \dots = \frac{Px_n^A}{Px_n^B} = \frac{Py_1^A}{Py_1^B} = \frac{Py_2^A}{Py_2^B (1+t)} \dots = \frac{Py_n^A}{Py_n^B} \quad (3)$$

where t is the restrictive explicit or implicit tax on y_2 in A.

If second, an external economy is attached to the export of x_1 , while the price of x_1 in A will be equal to its marginal social value, the price of x_1 in B will no longer represent the marginal social value of x_1 to A in B, for this will be equal to the price plus the external benefit accruing to A as a result of exporting x_1 to B. To restore the same ratio between the export's marginal social value in A and to A in B as obtains for the other exports and for imports, therefore, country A will have to expand x_1 . The expansion of x_1 will mean a subsidy on x_1 and thus, to the extent that x_1 is domestically produced, protection. Moreover, the introduction of the export subsidy will mean a departure from the unified nominal exchange rate. Formally, then, condition (1) will be fulfilled provided

$$\frac{Px_1^A}{Px_1^B (1+s)} = \frac{Px_2^A}{Px_2^B} = \dots = \frac{Px_n^A}{Px_n^B} = \frac{Py_1^A}{Py_1^B} = \frac{Py_2^A}{Py_2^B} = \dots = \frac{Py_n^A}{Py_n^B} \quad (4)$$

where s is the explicit or implicit subsidy of x_1 in A.

ii. Assuming that real income measures the satisfaction accruing to individuals from, at once, their personal and their collective consumption, that the satisfaction of their collective preference requires the use of trade taxes and subsidies and that A's economy in isolation is efficient, it follows that even in the absence of the country's monopoly/monopsony power in foreign trade or of externalities attached to trade, the fulfilment of condition (1) will require taxes and subsidies on trade and may, therefore, require protection. Efficient trade will require a departure from unified exchange rates on a commodity basis that is multiple commodity exchange rates.

3. Paragraphs 2, i. b) and 2. ii. show that discrimination by commodity may be required for efficient exchange. Condition (1) implies that where there is more than one foreign exchange, that is where foreign currencies are inconvertible, it should be fulfilled for each currency separately. In other words, the inconvert-

ibility of foreign currencies entails a departure from the unified real exchange rate on a currency basis (and, in turn, a departure from the unified nominal exchange rate on a currency basis), that is multiple currency exchange rates, or currency discrimination.

Formally, if country A trades with countries C and D whose currencies are inconvertible, or one of whose currencies is inconvertible into the other, the efficiency of trade will require that

$$\frac{vx_1^A}{vx_1^C} = \frac{vx_2^A}{vx_2^C} = \dots = \frac{vx_n^A}{vx_n^C} = \frac{vy_1^A}{vy_1^C} = \frac{vy_2^A}{vy_2^C} = \dots = \frac{vy_n^A}{vy_n^C}$$

and (5)

$$\frac{vx_1^A}{vx_1^D} = \frac{vx_2^A}{vx_2^D} = \dots = \frac{vx_n^A}{vx_n^D} = \frac{vy_1^A}{vy_1^D} = \frac{vy_2^A}{vy_2^D} = \dots = \frac{vy_n^A}{vy_n^D}$$

and thus, for instance, under assumptions 2.i.a)

$$\frac{Px_1^A}{Px_1^C} = \frac{Px_2^A}{Px_2^C} = \dots = \frac{Px_n^A}{Px_n^C} = \frac{Py_1^A}{Py_1^C} = \frac{Py_2^A}{Py_2^C} = \dots = \frac{Py_n^A}{Py_n^C}$$

and (6)

$$\frac{Px_1^A}{Px_1^D} = \frac{Px_2^A}{Px_2^D} = \dots = \frac{Px_n^A}{Px_n^D} = \frac{Py_1^A}{Py_1^D} = \frac{Py_2^A}{Py_2^D} = \dots = \frac{Py_n^A}{Py_n^D}$$

4. Assuming finally that equalization is practised, that is that domestic prices are set and foreign prices equalized to them by means of compensatory levies and subsidies so as to seal off domestic from foreign prices, then trade will be inefficient. Thus in case 2.i.a), for instance, we have seen that (2) fulfills the necessary condition for efficient exchange. But given equalization, the relationship between domestic and foreign prices must be described by an expression such as

$$\frac{Px_1^A}{Px_1^B} = \frac{Px_2^A}{Px_2^B} \neq \dots \neq \frac{Px_n^A}{Px_n^B} \neq \frac{Py_1^A}{Py_1^B} \neq \frac{Py_2^A}{Py_2^B} \neq \dots \neq \frac{Py_n^A}{Py_n^B} \quad (7)$$

Thus while protection and discrimination may be required for efficient trade equalization spells inefficiency.

III. IMPLICATIONS FOR THE EASTERN EUROPEAN FOREIGN TRADE SYSTEMS

The conclusions just formulated imply an outline of reform for the foreign trade systems of Eastern Europe which have been characterized by equalization, protection and discrimination. Thus, it follows from our discussion that if these systems are to be efficient

- i. equalization should be abolished
- ii. protection not justified by a country's monopoly/monopsony power in foreign markets, by externalities attached to trade or by the satisfaction of collective preferences, should be removed ; and non-protectionist taxes and subsidies on trade not warranted for the same reasons should be removed
- iii. discrimination, except for the discrimination between commodities justified for the reasons listed under ii. and the discrimination between currencies justified by inconvertibility, should be eliminated.

If we compare these three conditions of efficiency to the measures of reform actually being taken in Eastern Europe, we find that

- i. equalization has been abolished in Hungary and is being abolished in all the other Eastern European countries except the USSR and Romania
- ii.
 - a) nominal protection at least is being reduced in the five countries which have abolished, or are abolishing, equalization ; in Bulgaria, Czechoslovakia, Hungary and Poland, this is being achieved by the consolidation of commodity exchange rates at levels below the maximum for any commodity group and the gradual reduction of the consolidated rates ; Eastern Germany, by contrast, seems to be relying on the planned reduction of the domestic price level
 - b) there is evidence that effective protection has already decreased in Hungary
- iii. discrimination by commodity has decreased as is evident from ii. ; discrimination by currency has decreased at least in Czechoslovakia, Hungary, and Poland, where the number of currency exchange rates has been reduced to two, one for the capitalist, and one for the socialist, countries, as warranted by the inconvertibility of Eastern European into Western currencies ; (nevertheless, as the mutual inconvertibility of the Eastern European currencies and the inconvertibility of many of the currencies of the developing countries justify a further differentiation of exchange rates which is also required for payments equilibrium, it is probable that, with respect to these countries, a more complex system of multiple exchange rates is in fact being maintained by the appropriate manipulation of commodity exchange rates.)

Thus, if we consider the measures of reform taken so far, we may conclude that while the foreign trade of Eastern Europe is still far from being efficient, substantial steps for the improvement of trade efficiency have been taken in the most trade-dependent of the East European countries, that is Bulgaria, Czechoslovakia, Eastern Germany, Hungary and Poland. The USSR and Romania, however, have not yet even begun to eliminate equalization.

NOTES

- 1/ In Appendix I of Chapter II which dealt with the comparative efficiency of systems of allocation, we used the term 'efficiency' which defines a situation but not the equivalent 'maximization of real income' which describes a conscious objective. In this appendix, in which we discuss the policies pursued by the authorities of countries, we use the expression 'efficiency' and 'maximization of real income' alternatively, since a conscious objective can properly be ascribed to an authority.
- 2/ If we assume, as is usual, that supply is subject to increasing cost.
- 3/ See WILES, Peter J.D. : Communist International Economics. Oxford, Basil Blackwell, 1968, Chapter I for a discussion of Marxist international economics.
- 4/ And has for this reason been described as more honest than Western analysis in terms of individual preferences. WILES, p. 7.
- 5/ This could occur by force if a dictator were to impose upon his subjects his own view of what the collective preferences should be, or it could occur voluntarily if, as under full Communism individuals freely sacrificed the satisfaction of their own wants to the achievement of the common good.
- 6/ JOHNSON, Harry G. : "An Economic Theory of Protectionism, Tariff Bargaining, and the Formation of Customs Unions." *Journal of Political Economy*, June 1965, pp. 256-263.
- 7/ See the reference to BERTRAND, J.T., "Optimal Tariff Policy Designed for Government Gain," December 1970 (mimeo) in BALASSA, Bela, "Effective Protection. A Summary Appraisal" in Effective Protection, Herbert G. Grubel and Harry G. Johnson (Eds.). Geneva, General Agreement on Tariffs and Trade and Graduate Institute of International Studies, 1971, p. 258.
- 8/ Referring to our definition in the first section, the value of real resources which A is prepared to give up to obtain an additional unit of B-currency is the marginal social cost to A of a unit of foreign exchange.
- 9/ The marginal social value which A is prepared to give up to obtain a unit of y_2 is the marginal social cost of y_2 to A. Assuming that B's production of y_2 is subject to increasing cost, this must therefore lie above Py_2 .

APPENDIX II

STATE-TRADING : THE DIFFERENCES BETWEEN A FORM OF OWNERSHIP, AN INSTRUMENT OF TRADE CONTROL AND A BARRIER TO TRADE

The notion that state-trading is an instrument of trade regulation, like the tariff or quota, is widespread. It is stated or intimated in textbooks. ^{1/} It seems to have been held by Lenin. ^{2/} But, as is apparent if one considers the evidence collected on the operation of state-trading enterprises, it is false. ^{3/} This note demonstrates that it is, and concludes that state-trading is a form of enterprise ownership and may be a barrier to trade. The mistakes that Meade makes in analyzing state-trading as an instrument of trade control are commented upon. An inference from the analysis for negotiations on state-trading is suggested by way of conclusion.

The Control of Allocation and the Control of Property

We turn first to the case of competitive state-trading which, though not considered typical, exists in certain developing countries and is the situation towards which Hungarian state-trading, for instance, seems to be tending.

If state-trading enterprises are perfectly competitive, they will neither decrease nor encourage trade. For they will be price-takers on foreign as well as on domestic markets, equate marginal cost to price, hence domestic to foreign prices, and thus determine the competitive free trade solution. Only if the central authority intervenes to tax or subsidize them, to impose quantitative restrictions upon them, or to issue directives to them, will they be in a position to restrict or expand trade. The competitive state-trading enterprise in itself, therefore, is not an instrument of trade control.

But state-trading may be monopolistic. If so, it will generally restrict trade below the competitive level without the center's having to intervene. But this will not be because trade is undertaken by the State, since we have just shown that it may be without any restriction, but because, as we show in Appendix IV, it is undertaken by a monopoly. The restriction, in other words, could just as well be achieved by monopolies in private ownership.

Moreover, it is clear that if the monopolistic enterprise can reduce trade, it cannot, without further central intervention, serve to control it. For the monopoly will restrict trade, as compared to the competitive free trade situation, only to the level at which the monopolist maximizes profits. Short of this or beyond this, any restriction must be achieved by the intervention of the central authorities by means of the appropriate tax, quota or target, and any expansion must be effected by means of the central introduction of the apposite target or subsidy. This may be done secretly by agreement between the monopoly and the relevant authorities, but it must nevertheless be done if the level of trade is to be restricted below, or raised above, the level determined by the maximization of profits. Thus, while a monopolistic enterprise can restrict trade, it cannot regulate it. For, unlike the tariff, subsidy, quota or target, which can be set to determine a variety of trade levels at any one time, the operations of the state-trading enterprise will, in the absence of any central intervention, determine only one.

Note that although we have assumed, as is traditional in the theory of the firm, that the state-trading enterprise seeks to maximize profits, the argument remains valid if one supposes that the enterprise has a different objective such as the maximization of sales or the maximization of foreign exchange receipts : in any given situation the pursuit of this objective will determine one level of trade, whereas the use of a regulatory instrument like the tariff, the quota or the target can determine a variety of levels.

We conclude, therefore, that state-trading does not constitute an instrument of trade control. If trade is to be regulated given state-trading, it will have to be regulated by taxation, subsidization, quantitative limitation or targets. Thus, stripped of its false identity, state-trading emerges as a form of ownership, or the control of property, like private trading.

Meade Misled

The failure to distinguish between allocation and ownership, which has led to confusion elsewhere with respect to both economic principles and policy, leads Meade into error at this point. After asserting that state-trading monopolies are an instrument of trade control, he states first that, in a competitive economy, the consequences of the State monopolization of trade are essentially the same as the consequences of State intervention through taxes or subsidies and through quantitative restrictions. ^{4/} This is untrue, however, as we have shown, unless we suppose that the State effectively taxes, subsidizes or quantitatively restricts the State monopoly, in which case State monopolies are not an instrument of trade control, but an object of control like private enterprise.

Second, Meade states that an essential difference between state-trading and the control of trade by taxation, subsidization and quantitative limitation is the problem which occurs because a State export monopoly in one country may call into being a State import monopoly in another country, and thus give rise to bilateral monopoly. ^{5/} But this is plainly wrong. For an export monopoly in one country may call forth an import monopoly in another country and thus give rise to bilateral monopoly. In other words, bilateral monopoly is not a problem essential to state-trading, it is a problem essential to monopolistic trading regardless of whether trade is conducted privately or by the State. Nor, as Meade's phrasing suggests, is taxed, subsidized or quantitatively limited trade essentially competitive. It is essentially taxed, subsidized, or limited quantitatively. ^{6/}

Third, Meade states that if the bargain between two bilateral monopolists determines a situation in which the same price is asked for a given commodity in the two trading countries, the solution is the free trade solution. ^{7/} But this is confusing. For it is the free trade solution given perfectly competitive trade in the two trade countries. Given traders who are price-makers on international markets and who exercise their monopoly or monopsony power there, free trade will result not in a single price for one commodity in the two trading countries, but in different prices for one commodity in the two trading countries.

The confusion seems to have arisen from Meade's compounding both previous mistakes, that is the identification of a form of ownership with an instrument of trade control, and the association of this 'instrument' with a

given market structure. The absence of the price pattern associated with the relevant market structure, and hence with the presumed instrument of trade control, is then taken to indicate the free trade solution, whereas it only indicates another free trade solution given another market structure.

A Barrier to Trade

But if state-trading is not an instrument of trade control, it may be, or may appear to be, a barrier to trade in the sense that it restricts or expands trade below or beyond the competitive free trade level. It will be a barrier to trade if it is monopolistic. For if so, it will generally reduce trade below the competitive level, as we have indicated. It may appear to be a barrier to trade because it is subject to regulatory instruments which, owing to the trading enterprise's being property owned or controlled by the State, remain secret. And if so, the state-trading corporation will appear to restrict or expand trade below or beyond the competitive level according as to what controls are secretly applied to its activities.

Note, however, that the barrier to trade which state-trading constitutes, or appears to constitute, will tend to disappear as state-trading becomes more competitive. The enterprise's ability to restrict trade below the competitive level will clearly fall away with its monopoly power. But the secrecy which surrounds the instructions it receives will also tend to disappear when these have to be issued to a multitude of trading units. As state-trading becomes more competitive, therefore, so is it more likely to be controlled by a published tariff, published quantitative restrictions, or widely-known mandatory targets. For the secrecy of regulation is no more essential to state-trading than monopoly.

Conclusion

State-trading is a form of enterprise ownership, or of the control of property. It is not an instrument of trade control. But it may be a barrier to trade. As such, it is the proper object of trade negotiations, which may take on a number of forms.

1. The preparatory work for the negotiations may reveal that state-trading is a barrier to trade because the state-trading unit is, typically, a price-maker which exploits its monopoly or monopsony power. This is compatible with a state-trading enterprise's obligations under sub-paragraph 1. (b) of Article XVII of the General Agreement on Tariffs and Trade, although, to the extent that it practises discriminating monopoly, the enterprise could find itself in conflict with its obligations under sub-paragraph 1. (a) of the same article.

The negotiations themselves could then result in the mutual reduction of the profit margins of the state-trading monopolies and thus lead to the expansion of trade. Given the uneven distribution of state-trading among trading countries, however, the concessions made by the state-trading enterprises of one country might not be offset by concessions on state-trading by other countries. Thus, it would be necessary, first to include negotiations on the reduction of the monopolistic margins of state-trading enterprises into negotiations on other barriers to trade. Second, some formula would have to be found for consolidating such reductions and it is difficult to believe that there would not then be pressure

from state-trading countries to extend such regulation to privately-owned trading monopolies. The control of the barrier to trade created by the exploitation of the monopoly/monopsony power of state-trading enterprises would thus require the international regulation of monopolistic trading in general.

2. The preparatory work for the negotiations could, on the other hand, reveal that state-trading is a barrier to trade because the typical state-trading unit behaves competitively but is subject to regulatory instruments which are either secret, or about which sufficiently precise knowledge is not readily available. The first step would then be to gather relevant information on the instruments used to control state-trading.

Thereafter, however, it follows from the fact that the instruments used to control state-trading, that is targets, taxes, subsidies and quantitative restrictions, must be the same as those used to control other trade, that the techniques previously used to reduce and consolidate tariffs, to reduce and consolidate quantitative restrictions and to reach agreement on the target control of trade would be applicable in a state-trading round. And this being so, negotiations on state-trading would automatically be integrated into negotiations on other trade barriers. The control of the barrier to trade created by the application to competitive state-trading of secret or quasi-secret instruments of trade regulation would, thus, once the relevant information had been collected, simply require negotiations on the various instruments of trade control applied to it.

3. The preparatory work for the negotiations could, finally, reveal that state-trading is a barrier to trade both because the state-trading unit is, typically, a price-maker which exercises its monopoly or monopsony power, and because it is subject to governmental regulation which is either secret or very imperfectly known.

Given initial fact-finding, the negotiations could then proceed as for all targets, taxes, subsidies and quantitative restrictions in the case of the regulation to which the state-trading enterprises were subject. But the control of the enterprises' monopoly profits would, here again, require an agreement on monopolistic trading in general. This case, which would appear to be the most realistic, would, therefore, be relatively simple to deal with if all that was sought was to regulate the trade controls applied to state-trading. But if what was sought was to regulate the monopoly element in the state-trader's profits, this case would, like the first, require the much more difficult elaboration and implementation of an international agreement on monopolistic trading.

NOTES

- 1/ MEADE, James E. : The Theory of International Economic Policy, Volume II : Trade and Welfare, London, Oxford University Press, 1955, pp. 176-185.

- KINDLERGER, Charles P. : International Economics, Homewood, Ill., Richard D. Irwin Inc., fourth edition, 1968 (The Irwin Series in Economics), p. 130, implies very loosely that state-trading, like tariffs, has a variety of 'effects' produced by interference with trade or its reduction'.

- 2/ Lenin rejected Boukharin's suggestion in 1922 that trade should be regulated by tariffs, in favour of state-trading through the foreign trade monopoly. He therefore seems to have considered state-trading to be an instrument of trade control. But, in the French translation at least, he then states "... car il ne peut être question d'aucune politique douanière sérieuse actuellement, à l'époque de l'impérialisme, en dehors du système du monopole du commerce extérieur ..." which could be read to suggest that he realized that state-trading had to be regulated by the same instruments, including taxes, as private trade.

- LENINE, Vladimir : "Le Monopole du Commerce Extérieur. Au camarade Staline pour la réunion plénière du C.C." Oeuvres, Moscou, Editions en langues étrangères, 1963, Tome 33, août 1921 - mars 1923, p. 468-472.

- 3/ See, for instance, the material assembled on state-trading in developing countries for the first United Nations Conference on Trade and Development in 1964, the material assembled on state-trading in member countries by the GATT and, for centrally planned economies, the description of the control exercised over state-trading enterprises such as that to be found in PRYOR, Frederic L. : The Communist Foreign Trade System, London George Allen and Unwin, 1963, pp. 57-60.

- 4/ MEADE, p. 176.

- 5/ Ibid., p. 178.

- 6/ The notion that bilateral monopoly is inherent to state-trading reappears in MEADE, James E. : A Geometry of International Trade, London, George Allen and Unwin, 1952, p. 61.

- 7/ MEADE, Trade and Welfare, p. 180.

Chapter III

APPENDIX IIITHE LINKING OF DOMESTIC AND FOREIGN PRICES AND THE DIFFERENT
FORMS OF TRADE CONTROLI. THE ABANDONMENT OF EQUALIZATION OR THE LINKING
OF DOMESTIC AND FOREIGN PRICES

In Appendix I, we saw that equalization, that is autarkic pricing, gives rise to inefficiency. For, as we showed in the case where the trading country is perfectly competitive on foreign markets and no externalities are attached to trade, equalization leads to inequalities between the marginal social cost and value of traded goods.

The abandonment of equalization means the abandonment of autarkic pricing and the linking of domestic and foreign prices. The precise meaning of this is apparent from the following examples in which we compare the situation given equalization and given its abandonment for a country which is a price-taker on international markets.

Suppose, first, that the domestic and foreign prices of imports are always equal, respectively, to the marginal social value and cost of imports and that, initially, the situation is an efficient one in which domestic and foreign import prices are equal when expressed in a single currency, so that the marginal social cost and value of imports are also equal to each other. And suppose that there is some inelasticity to the demand for any given import product. Then imagine a fall in the foreign price of one import. Given equalization this would lead to the introduction of a levy or tax equalizing the new foreign price to the given domestic price and thus to an inefficient divergence between the marginal social cost and value of the import. Given the linking of domestic and foreign prices, the fall in the foreign price and marginal cost of the import will, instead, prompt an increase in the volume imported, a fall in the import's domestic price and marginal social value, and thus a return to the equality of the domestic and foreign price, and of the marginal social cost and value, of the imported product. Or assume that the domestic and foreign prices of exports are always equal, respectively, to the marginal social cost and value of exports and that, initially, the situation is an efficient one in which domestic and foreign prices, and hence the marginal social costs and values of exports, are equal. Assume also that there is some inelasticity to the supply of any given export product. Then suppose a rise in the domestic price of one export. Given equalization, this would lead to the payment of a subsidy equal to the difference between the domestic and foreign price and thus to an inefficient divergence between the marginal social cost and value of the export. Given the linking of domestic and foreign prices, the volume exported and the domestic price and marginal social cost of the export will decrease and the equality between the foreign and domestic price, and the marginal social cost and value, of the exported product will be reestablished.

The abandonment of equalization thus means that trade will be allowed to respond to changes in the relation between domestic and foreign prices, due to variations in either one or the other, in such a way as to avoid the severance of domestic from foreign prices and the associated inefficient divergence of the marginal social cost and value of traded products. However, this must not be read to mean that the abandonment of equalization will ensure the efficiency of trade although in the two illustrations just discussed it does do. For, just as equalization is not the only reason for inefficient trade, so the abandonment of equalization alone will not achieve efficiency. The linking of domestic and foreign prices will eliminate the particular inefficiencies associated with autarkic pricing. But while this is necessary for efficient trade, it is not sufficient for it.

In what follows the expressions 'the abandonment of equalization' and 'the linking of domestic and foreign prices' will be used interchangeably.

II. THE LINKING OF DOMESTIC AND FOREIGN PRICES AND THE INSTRUMENTS OF TRADE CONTROL

The abandonment of equalization is clearly compatible with trade control. To revert to the previous examples, the domestic and foreign prices of imports and exports could move together given the imposition of taxes on trade or, in a system of direct allocation, by the appropriate manipulation of targets. But the automaticity with which the link between domestic and foreign prices is maintained, will depend upon the form which trade control takes. The purpose of this note is therefore to explore this automaticity under the various forms of trade control. It concludes, not unexpectedly, that it will generally increase as the control of trade becomes more indirect. But this does not mean, as we shall see, that targets or directives must be eliminated before any automatic response can be expected to changes in domestic and foreign prices. Nor, on the other hand, does it mean that the mere elimination of the most extreme form of direct control, that is the mandatory single commodity volume target, will suffice to establish a link between domestic and foreign prices.

We may distinguish three types of trade control instrument. The first is the target, or directive, which is an order to import or export a certain quantity or value of products, and which may be used either to restrict the level of trade below the free trade competitive level, or to expand it beyond this point. If it is used for either of these purposes it will create a divergence between domestic and foreign prices when these are expressed in a common currency. The value target, therefore, may be computed either at domestic or at foreign prices. The value target allows the trader some say in the determination of the level of trade. So does the volume target set for a class of goods instead of a single commodity. Either of these forms of target, therefore, will introduce an element of decentralization into the foreign trade system.

The second instrument of trade control is the quantitative limitation or quota which restricts trade by placing an upper limit on the quantity or value of goods imported or exported. It thus creates a divergence between domestic and foreign prices when these are expressed in a common currency so that, like the value target, the value quota may be computed at either domestic or foreign prices. The competitively allocated, but not the monopolistically-held quota, will necessarily be entirely taken up. In this form, therefore, the quota will have the same effects upon trade as the target.

The third type of instrument comprises the ad valorem tax on trade, or tariff, and the negative trade tax or subsidy. Neither of these determine nor limit the quantity or value traded like the target or quota. Instead, the tax restricts trade below, and the subsidy expands it above, the free trade competitive level by establishing a rate of divergence between domestic and foreign prices. They are, therefore, indirect, as compared to the previous two direct, forms of trade control.

If we consider these three types of instrument, and the various devices included in each type, in relation to the linking of domestic to foreign prices, we can further divide them into four groups. The first consists of the instruments which preclude the automatic abandonment of equalization ; the second, of those which allow some automatic response to changes in domestic and/or foreign prices but which require continuous central intervention to correct for inefficient changes. The third comprises the instruments which allow a limited automatic response to changes in both domestic and foreign prices, but which may require central intervention to correct inefficient adjustments or to ensure the efficiency of trade ; the fourth, includes the controls which ensure the automatic elimination of equalization but which nonetheless may require central intervention to ensure efficient trade. To these categories we now turn.

In analysing them and the instruments within them we make the following assumptions. First, we assume that, unless otherwise stated, restrictive targets or quotas will remain restrictive whatever the price changes considered, and that the expansionary target will remain expansionary whatever price changes take place. In other words, these instruments will determine divergences between domestic and foreign prices which, second, will accrue as excess profits to the trading enterprise in the case of restrictions on imports and exports, and will be incurred as losses by the trading enterprise in the case of the expansion of imports and exports. Third, unless otherwise stated, we suppose that trading enterprises are price-takers equating marginal cost to price given trade taxes or subsidies, and attempting to do so given targets and quotas. Fourth, we assume that the initial situation, before any price changes take place, is an efficient one in which the marginal social cost and the marginal social value of all traded products is equal. The restriction or expansion of trade below or beyond the free trade competitive level ensured by the instruments of trade control will, in other words, have been introduced to achieve efficiency. Fifth, we imagine that countries are price-makers on international markets. This, on the one hand, makes it clear that the linking of domestic to foreign prices does not consist merely in adjusting a given country's prices to foreign prices, but in the interaction of domestic and foreign prices. On the other, it enables us to suppose that the monopolist trader is exploiting the monopoly or monopsony position of the country from which he trades on foreign markets so that his private equation of marginal cost and value will entail the equation of marginal social cost and value. Sixth, we assume that consumption is subject to diminishing marginal value and production to increasing cost.

By automatic adjustment to changes in domestic and foreign prices, we shall mean the changes in the level of trade resulting from traders price-taking behaviour subject to the trade controls imposed upon them. Automatic adjustment will be contrasted to the adjustment which takes place through central intervention.

Instruments which Preclude the Automatic Dismantling of Equalization

These are the single commodity volume target and the competitively allocated volume quota on imports and exports. Whatever the domestic or foreign prices, the directive concerning the volume of trade will have to be carried out. And, given our assumptions, whatever the changes in domestic and foreign price, the competitively allocated quota will always be fully taken up. Thus changes in the relation between domestic and foreign prices will not automatically lead to corrective changes in the quantity traded. Instead, they will result in the divorce of domestic from foreign price and in divergences between the marginal social cost and value of traded products. If the emergence of an autarkic price system and equalization are to be avoided, therefore, the authorities will have to intervene continuously to change targets and quotas in response to variations in domestic and foreign prices.

These propositions are illustrated in Diagram I. D_D is the domestic demand for the import and S_F its foreign supply. The importing country is a price-maker on world markets and the volume target or competitively allocated quota OM has been introduced to enable it to restrict trade its efficient level, that is the level at which the marginal social cost (Msc) of the import is equal to its marginal social value (Msv). Domestic price is then OH and foreign price OW. The foreign supply then falls and so does the price and the marginal social cost of imports to the importing country. But given the volume target or quota, the level of trade will not change. As a result the foreign price will diverge from the domestic price, the marginal social value of trade from its marginal social cost, and trade will be inefficient. To avoid this, the center will have to intervene and change its target or quota.

Instruments which allow Some Automatic Response to Changes in Domestic and/or Foreign Prices but which Require Continuous Central Intervention to avoid Disruptive Adjustments

These are the single commodity value target and competitively allocated quota on imports computed at domestic or at foreign prices, and the single commodity value target and competitively allocated quota on exports computed at domestic prices or at foreign prices.

The single commodity value target and competitively allocated quota on imports computed at domestic prices or at foreign prices will allow a limited response to changes in foreign prices which will tend to maintain the link between domestic and foreign prices. But although they will allow a limited response to changes in domestic prices, these will tend to disrupt the link between domestic and foreign prices and will thus require continuous central intervention if inefficiencies are not to result.

Thus imagine, first, a fall in the foreign price of one import given the imposition of a restrictive target or competitively allocated quota. In the case of the target or quota computed at domestic prices, this will automatically prompt an increase in the quantity imported and a fall in the domestic price which will allow the increase in the quantity imported to be accommodated within

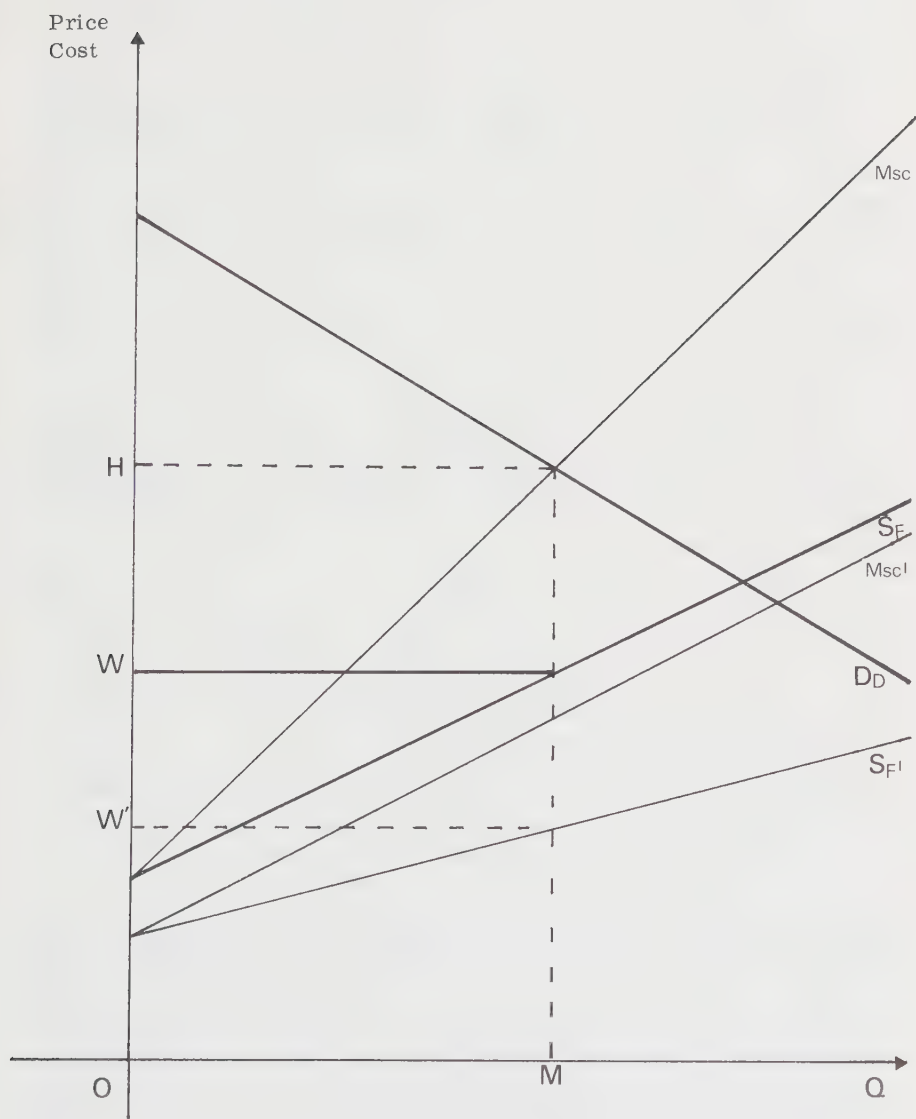


Diagram 1

the value target or quota computed at domestic prices. The fall in the domestic price, moreover, will mean a fall in the marginal social value of the import. Thus, although the limit placed upon trade by the target or quota may not permit the efficient situation to be reestablished, the domestic will move with the foreign price, marginal social value with marginal social cost, and a link be automatically maintained between both pairs of variables.

In the case of the target or quota computed at foreign prices, the drop in the foreign price will also prompt an increase in the quantity imported which, moreover, will fulfill the restriction computed at foreign prices. Again, therefore, the domestic price and marginal social value of the import will fall and, in spite of the fact that the limitation placed upon trade by the restriction may not allow the efficient situation to be reestablished, the domestic will have moved with the foreign price, marginal social value with cost, and an automatic link have been maintained between both pairs of variables. Note also, that our conclusions would be the same if the change taking place had been an increase in the foreign price, or if the target had been an expansionary one introducing an effective subsidy on trade.

But suppose that, instead, the domestic price rises, in other words, that the demand for the import increases. This will again prompt an increase in trade whether the restriction is computed at domestic or at foreign prices. But, given the restriction computed at domestic prices, an increase in the quantity imported can be accommodated only if there is a fall in the domestic price below its initial level, which, in view of the increase in demand, may not be possible without the traders sustaining a loss. If it is not, then, given the restriction, the increase in demand will result in a reduction in the level of trade, a divergence of domestic and foreign prices and of the marginal social value and cost of the import. If, moreover, the restriction is computed at foreign prices, the increase in the quantity imported prompted by the increase in the domestic price will be impossible for it would require a rise in the foreign price which given the target or competitively allocated quota would then entail a reduction in the quantity imported. Thus, the level of trade will not change, but the change in the domestic price will result in the domestic being divorced from the foreign price and the marginal social value of the import from its marginal social cost.

The preceding propositions are illustrated in Diagram 2 where D_D , S_F , Msv , Msc , OW and OH have the same significance as in Diagram 1. The target or competitively allocated quota, however, is now a value restriction introduced to ensure the efficient level of trade for the monopsonist country and is equal to (OM, OW) when computed at foreign prices and to (OM, OH) when computed at domestic prices. We suppose that the demand for imports increases to D_D' so that the price of OM on the domestic market rises to OH' . This should induce an increase in the quantity imported. But for this to be accommodated within the value restriction computed at domestic prices would mean such a fall in price given the increase in demand that it would cause the traders a loss. As a result, there will be no increase in the volume of imports, but given the increase in the domestic price of imports combined with the maintenance of the value restriction computed at domestic prices, a contraction of the volume imported

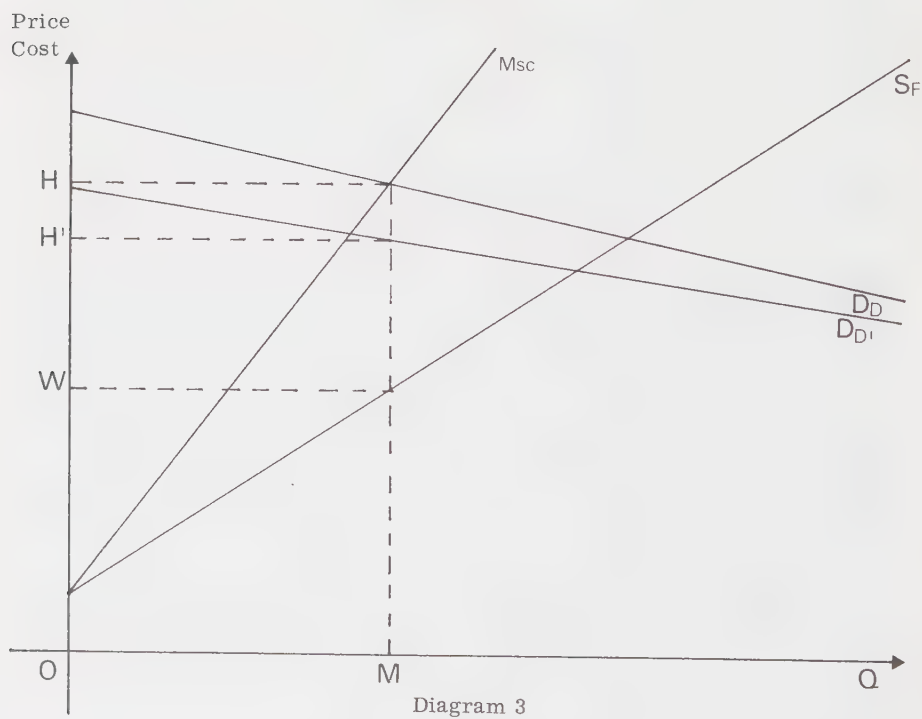
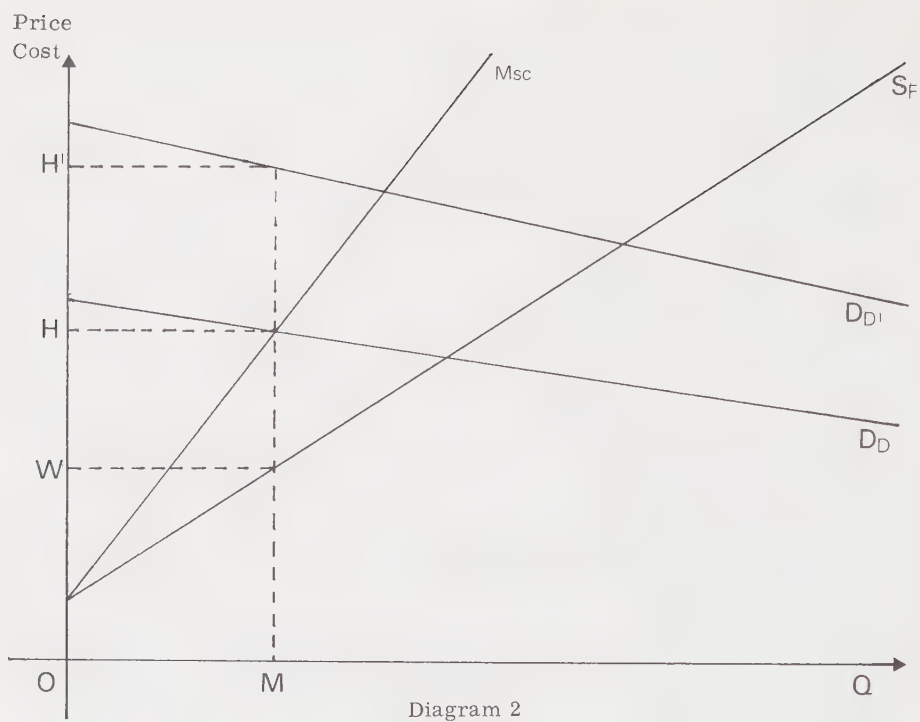
to below OM, and a rise in the domestic price to above OH'. Domestic and foreign prices and marginal value and cost will thus diverge, and the situation be inefficient. If the restriction is computed at foreign prices, the increase in the quantity demanded induced by the rise in the domestic price cannot be met. For it could only be supplied at a price higher than OW which, given the value restriction computed at foreign prices would result in a fall in the actual quantity shipped. Trade will therefore remain at level OM, but domestic and foreign prices and the marginal social value and cost of the import diverge, and the situation be inefficient.

If there is a decrease in the demand for the import and hence in its domestic price, then, given our assumptions that such a price change will not cause a loss for the traders, the restriction computed at domestic prices will ensure that there is an increase in the quantity imported. As a result of the restriction, therefore, the fall in demand will result in an increase in the volume of trade, an increase in the foreign price of the import as the domestic price falls and in an excess of the marginal social cost of the import over its marginal social value : the link between domestic and foreign prices will have been disrupted and trade will be inefficient. If the restriction is computed at foreign prices, there will be no change in the level of trade or in the foreign price as the domestic price falls, but the marginal social cost will again exceed the marginal social value of the import and trade will be inefficient.

These propositions are illustrated in Diagram 3 where the labelling is the same as in Diagram 2 and the initial position is again an efficient one with the restriction enabling the country, given its monopsony position, to equate the marginal social cost of imports to their marginal social value. Then domestic demand falls to D_D' and the domestic price given the quantity imported OM to H'. At this price the target or competitive quota computed at domestic prices will not be fulfilled. The target, however, must be, and, as the competitive traders are still making excess profits despite the fall in price, the competitively allocated quota will be. Thus the volume of trade will rise to exceed OM, the fall in the domestic price will be accompanied by an increase in the foreign price and marginal social cost will exceed marginal social value. The link between domestic and foreign prices will thus have been disrupted and trade will be inefficient. If the restriction is computed at foreign prices, the level of trade will remain OM, the foreign price will not alter as the domestic price falls, and at OM the marginal social cost of the import will exceed its marginal social value. The link between domestic and foreign prices will again have been disrupted and trade become inefficient.

We conclude, therefore, that if under the single commodity value target or competitively allocated quota for imports, the inefficiencies associated with the divorce of domestic and foreign prices are to be avoided, the central authorities will have to intervene virtually whenever domestic prices change. This conclusion applies also in the case of the corresponding expansionary target.

The single commodity value target and competitively allocated quota on exports computed at domestic or foreign prices, by contrast, will allow a



limited automatic response to changes in domestic prices which will tend to maintain the link between domestic and foreign prices. But while it will permit a limited response to foreign prices, this will tend to disrupt the link between domestic and foreign prices and therefore require intervention by the center.

Thus, suppose first, that there is a fall in the domestic price of one export, that is an increase in its supply given the imposition of a restrictive target or competitively allocated quota. This will prompt an increase in the quantity exported. If the restriction is computed at domestic prices, this will also fulfill the target or quota given the fall in the domestic price. And as the quantity exported increases, the foreign price of the export, and so its marginal social value will fall. If the restriction is computed at foreign prices, the increase in the quantity exported prompted by the fall in the domestic price and the ensuing drop in the foreign price will mean that the increased quantity can be accommodated within the value restriction. Thus, however the restriction is computed and even though the limit it places upon trade may not allow the efficient situation to be reestablished, a link between the domestic and the foreign price and between marginal social cost and value will be maintained. The same would be true, moreover, if the domestic price were to rise, or if we were to consider the case in which the target was expansionary.

However suppose, instead, that the foreign price and the marginal social value of the export rise as a result of an increase in foreign demand. Here again traders will have an incentive to increase the quantity exported. But if the restriction is computed at domestic prices, this cannot be accommodated for the increase in the quantity of exports supplied can only take place at a higher domestic price which, given the restriction would imply a reduction in the quantity supplied. The level of trade will therefore remain the same and domestic and foreign prices and marginal social cost and value diverge. If the restriction is computed at foreign prices, the increase in the quantity traded will only be accommodated within the restriction if there is a fall in the foreign price below its initial level. But this, given the increase in demand, may not be possible without the traders actually incurring a loss. If it is not, the outcome will be a reduction of trade below its initial level, and the divorce of domestic and foreign prices and marginal social cost and value. But the change in price can take the form of a fall in the foreign price of the export. If the restriction is computed at domestic prices, the quantity of exports and the domestic price will remain unchanged but marginal social cost will exceed marginal social value. The link between domestic and foreign prices will thus have been broken and trade be inefficient. If the restriction is computed at foreign prices, it will result, since the target must be taken up at the lower price and the competitively allocated quota will be, in an increase in the quantity exported. Given the restriction, therefore, the fall in demand and foreign price will lead to an expansion in the level of trade, an increase in domestic price and an excess of marginal social cost over marginal social value. The break in the link between domestic and foreign prices will again have occurred and trade be inefficient.

Thus if the inefficiencies resulting from the disruption of the link between domestic and foreign prices are to be avoided in the case of the single commodity value target or competitively allocated quota on exports, the center will have to undertake corrective action virtually whenever foreign prices change. Although only the restrictive target has been discussed, the conclusion applies equally if targets are expansionary.

Instruments which allow a Limited Automatic Response to Changes in Both Domestic and Foreign Prices, but which may Require Central Intervention either to correct Inefficient Adjustments or to ensure the Efficiency of Trade

These are the single commodity monopolistically held volume quota on imports or exports, the single commodity monopolistically held value quota on imports or exports computed at domestic or at foreign prices, the multiple commodity volume target or quota on imports or exports, the multiple commodity value target or quota on imports computed at domestic or foreign prices, and the multiple commodity value target or quota on exports computed at domestic or foreign prices.

Single Commodity Monopolistically Allocated Quotas

Whether or not monopolistically held quotas will allow any automatic response to change in the relation between domestic and foreign prices, and whether or not they will require central intervention to correct inefficient changes or to achieve efficiency, will depend on whether the quotas, or quantitative limitations, enable the monopolistic traders to maximize profits. If they do not, the quotas will be fully taken up, price changes will lead to the disruptive adjustments noted in those cases and, if the link between domestic and foreign prices is to be maintained and inefficiency avoided, central intervention will be necessary. But, if the quantitative limitations are large enough to enable traders to maximize profits, then traders will behave as they would do in the absence of controls and respond to changes in domestic and foreign prices as they would do in a free market. As we have assumed that monopolistic traders exploit the monopoly or monopsony power of the country they are trading from this will also ensure efficiency. Thus, if quantitative limitations are large enough to enable traders to maximize profits, the center will be required to intervene for efficiency only if, in adjusting to a price change, the monopolistic trader runs up against the limit imposed by the quota.

Multi-commodity Controls

Multi-commodity controls may but, in contrast to the single commodity targets or competitively allocated quotas, need not require continuous central intervention to correct inefficient changes. For the imposition of controls for classes of commodities instead of single goods removes the constraint from the single product and thus allows compensatory adjustments to take place within the overall constraint which will enable the prices of domestic and foreign prices to move together. On the other hand, central intervention may still be required for efficiency.

Thus take the case of a multiple commodity restrictive volume target or quota on imports and suppose that the foreign price, that is foreign supply, of one import falls. If the target or quota had been for a single commodity, no adjustment would have been possible and the result of the price change in foreign markets would simply have been to cause a divergence between the domestic and foreign prices and the marginal social cost and value of the import. But given the multi-commodity restriction, the fall in the foreign price can give rise to an increase in the quantity traded, and a fall in the domestic price and the marginal social value of the import which will maintain the link between domestic and foreign prices. It is true that if no changes in the prices of the other products included in the class subject to the restriction occur, the adjustment in the level and price of the first good will necessarily take place at the expense of a contraction in the level of trade and a disruption between domestic and foreign prices and the marginal social cost and value of the other goods. So that, if inefficiency is to be avoided, corrective action will have to be undertaken by the center. But if the fall in the price of the first good is associated with rises in the prices of the other goods, then an expansion in the level of trade in the first good may be combined with a fall in the quantity imported of the goods whose foreign price has risen. In this case, therefore, the link between domestic and foreign prices will be automatically maintained for all products and the center will have to intervene only if the limitation placed upon trade by the restriction does not allow the efficient level of trade to be reached. Clearly, the more products are included in the class subject to the restriction, the more likely this is, and the less central intervention is likely to be required.

Precisely the same conclusions and for exactly the same reasons apply to multi-commodity value targets and quotas on imports and exports. In the case of the restrictive value target or quota for imports, for instance, changes in the domestic price of one import which, in the case of the single commodity target or quota led, as we saw, to the disruption of the link between domestic and foreign prices, could be offset by compensatory changes in prices of other imports subject to the same restriction. Adjustments maintaining the link between domestic and foreign prices would therefore be possible within the limits of the overall restriction without central intervention, although given the limitation of trade this might, as before, be necessary to achieve efficient trade. Or, in the case of the restrictive value target or quota for exports, for example, changes in the foreign price of one export which would have meant disruptive changes given the single commodity target or competitively allocated quota, may be accompanied by changes in the foreign prices of other exports which will allow the link between domestic and foreign prices to be automatically maintained within the overall limitation constituted by the multi-commodity control, although control intervention may again be required for the achievement of efficiency. And in these cases too, the more products are included in the class subject to control, the more compensatory changes are likely and the less central intervention is likely to be required.

Instruments which ensure the Automatic Abandonment of Equalization but may require Central Intervention to ensure Efficiency

These are the ad valorem tariff and subsidy. They allow the response to changes in domestic and foreign prices to take place until the rate of tax or subsidy is reestablished. In contrast to the preceding instruments, therefore, they automatically ensure the maintenance of the link between domestic and foreign prices and the marginal social value and cost of traded products. A fall in the foreign price of one import, for instance, will, given a 25 per cent ad valorem tax, prompt an increase in the quantity imported which will continue until the divergence of 25 per cent is reestablished between domestic and foreign prices.

This may be seen in Diagram 4, which also serves to point up the difference between tariffs and the restrictive value targets and quotas shown in Diagrams 2 and 3. As before S_F is the foreign supply of imports and D_D the domestic demand for them. A tariff, t , equal to $\frac{OA - OB}{OB}$ applies to imports which shifts S_F to the left by the amount of the tariff. Competitive equilibrium thus is at T , at the intersection of D_D and $S_F + t$, foreign price is OW and domestic price OH . The equilibrium situation is an efficient one at which the marginal social value (Msv) is equal to the marginal social cost (Msc) of the import, for the tariff has been introduced to enable the country to achieve efficiency given its monopsony position. If the foreign supply of imports then increases to S_F' , so that the foreign price of the import falls, and the tariff rate remains the same, the new equilibrium will be at T' at the intersection of D_D and $(S_F + t)'$; foreign price will be OW' and domestic price OH' , $\frac{OH' - OW'}{OW'}$ being equal to tariff rate $\frac{OA - OB}{OB}$. The fall in the foreign price will have been followed by a fall in the domestic price and the drop in the marginal social cost of the import by a drop in its marginal social value.

However, as our diagram shows, while the control of trade by tax or subsidy ensures the automatic maintenance of the link between domestic and foreign prices, and thus washes out the inefficiencies which would arise with the severance of that link, this does not necessarily mean that it will ensure efficiency as domestic and foreign prices change. For changes in foreign prices for instance, may, as they do in the case depicted, indicate a change in production conditions abroad which change the monopoly/monopsony power of the country which is controlling its trade by tariff or subsidy. If they do, this will require a change in the rate of tax or subsidy if efficiency is to be achieved. Thus while, under trade taxes and subsidies, central intervention will be unnecessary for the abandonment of equalization, it may nonetheless be necessary to ensure efficient trade.

III. CONCLUSION

We see, therefore, that the automatic abandonment of equalization is precluded if trade is controlled by single commodity volume targets or competitively allocated quotas on exports and imports. In these cases it will require continuous central intervention. On the other hand, it will be ensured if trade is controlled by tariffs or subsidies although central intervention may then be

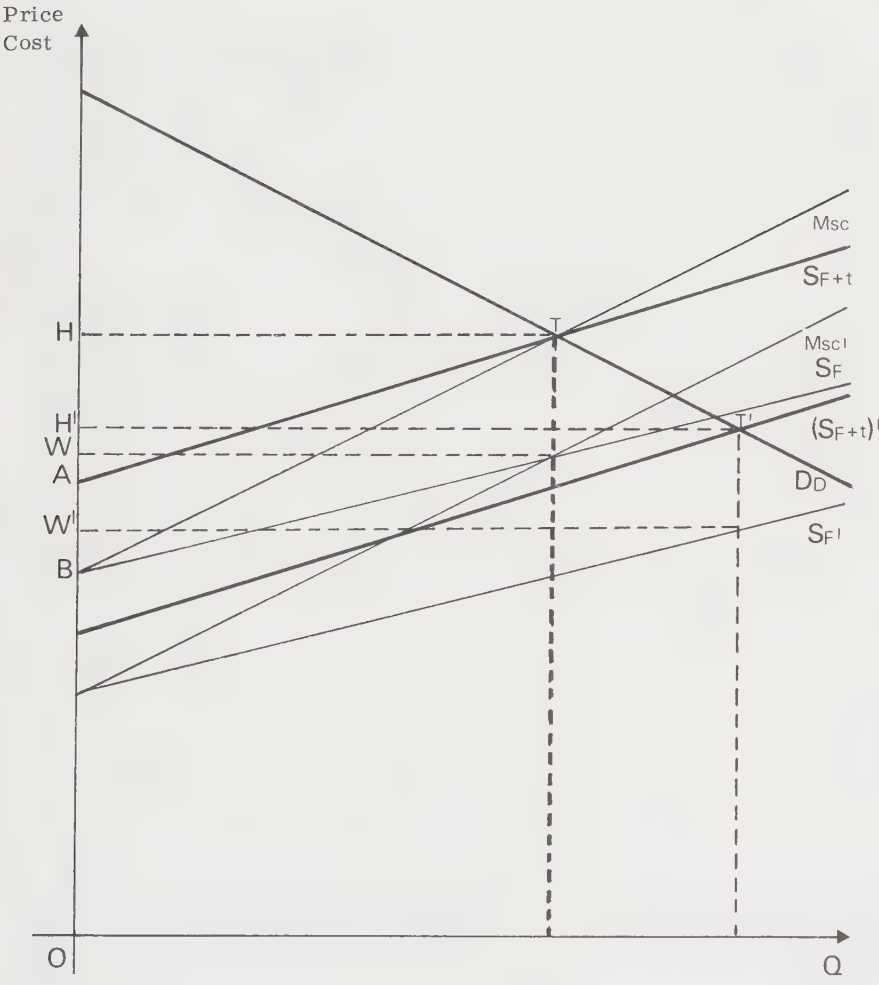


Diagram 4

required to achieve efficiency. Between these two extremes trade may be controlled by a variety of forms of targets and quotas which will allow a limited automatic response to domestic and foreign prices and which may require central intervention either to avoid the disruption of the link between domestic and foreign prices or to achieve efficiency. These conclusions are tabulated in the appended chart.

Our analysis demonstrates that the automaticity with which domestic and foreign prices are linked will increase as the control of trade becomes more indirect. But as the chart shows, this does not mean that targets must be abolished before an automatic and undisruptive response to changes in domestic and foreign prices can be expected. Nor, on the other hand, does it mean as our analysis of the single commodity value target or competitively allocated quota has shown, that the mere abolition of the most compulsory target, that is the single commodity volume directive, is sufficient to establish the link between domestic and foreign prices necessary for efficient trade.

Considering all our conclusions, therefore, we see that a country wishing to abandon equalization and, at the same time, the day-to-day responsibility for its abandonment, should eliminate all single commodity volume targets or competitively allocated quotas on imports and exports. It should also introduce tariffs and subsidies. But if, for instance, the instability of world markets precludes this, it should avoid single commodity value targets and quotas and adopt multi-commodity controls on the quantity or value of trade.

THE LINKING OF DOMESTIC AND FOREIGN PRICES AND THE DIFFERENT FORMS OF TRADE CONTROL

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Instruments which preclude the automatic abandonment of equalization	Instruments which allow some automatic response to changes in domestic and/or foreign prices but which require continuous central intervention to avoid disruptive adjustments	Instruments which allow limited automatic response to changes in both domestic and foreign prices, but which may require central intervention either to correct disruptive adjustments or to ensure the efficiency of trade	Instruments which ensure the automatic abandonment but may require central intervention for efficient trade
1. Single commodity volume target or competitively allocated volume quota on exports or imports	1. Single commodity value target or competitively allocated quota on imports or exports computed at domestic or foreign prices	1. Single commodity monopolistically held volume quota on imports or exports $\frac{1}{2}$ 2. Single commodity monopolistically held value quota on imports computed at domestic or foreign prices $\frac{1}{2}$ 3. Single commodity monopolistically held value quota on exports computed at domestic or foreign prices $\frac{1}{2}$	1. Tariffs and subsidies 4. Multi-commodity volume target or quota on imports or exports 5. Multiple commodity value target or quota on imports computed at domestic or foreign prices 6. Multiple commodity value target or quota on exports computed at domestic or foreign prices

1/ The assumption is made that the monopolist quota-holder is exploiting the monopoly or monopsony position of the country it is trading from on international markets.

APPENDIX IV

THE EQUIVALENCE OF TARIFFS, SUBSIDIES, QUOTAS AND TARGETS

The proposition that tariffs and quotas are equivalent ^{1/} in the sense that a given tariff normally will determine a quantity of imports which, if set as a quota, would result in the same rate of divergence between domestic and foreign prices, has recently been exploded. Bhagwati has demonstrated that it depends on perfect competition and that if there is a monopoly of domestic production, of the quota, of both, or of trade, the equivalence of tariffs and quotas need not hold. ^{2/} The discussion so far has considered only the instruments of trade control in most common use in the market economies, however. ^{3/} This note attempts to extend it to the chief regulatory instrument of the centrally planned economies until the reforms, that is the mandatory target. It concludes that the target will not normally be equivalent to the tariff, but that it will be equivalent to it under less restrictive conditions than the quota. It considers the causes of non-equivalence, and then uses the findings of the analysis to comment upon the abandonment of targets and the adoption of other forms of trade control which are at present being discussed or actually implemented in Eastern Europe.

Section I defines the terms and framework of the discussion. Section II analyses the equivalence of mandatory targets, tariffs and quotas, Section III the equivalence of targets and subsidies. The findings of these two sections are summarized in Table I, p. 239. Section IV considers the monopoly of trade as a cause of non-equivalence. Section V presents the conclusions of the analysis and inferences from it for the changes taking place in the Eastern European systems of trade control.

I. DEFINITIONS

A tariff is a tax on trade, a trade subsidy a negative tariff. Both these methods of trade control are indirect instruments of central regulation in that they do not entail the limitation or determination of traded quantities or values by the center.

A quantitative restriction or quota limits the quantity or value of trade and, as such, is a direct intervention of the centre in foreign trade. One difference between it and the tariff, therefore, is that the ad valorem tariff sets the rate of divergence between domestic and foreign prices leaving the market to determine the quantities bought and sold, whereas the quota limits the quantities or values bought and sold and lets the market determine the rate of divergence between domestic and foreign prices. A second distinction between the two is that, in contrast to the tariff, there is no negative quantitative restriction which can be used to expand trade. In other words, quantitative restrictions cannot have the same effects as subsidies. ^{4/}

The mandatory target, or directive, determines the quantity or value of trade. It is a direct intervention of the centre which takes the form of an order to trade a given quantity of a certain product or products. It is enforced by administrative or political means and by making it profitable for an enterprise

to fulfil its targets. It determines the quantities bought and sold and lets the market mechanism, in so far as it is allowed to operate, determine the rate of divergence between domestic and foreign prices. The target can be used to expand trade and can therefore be compared to a subsidy.

In what follows the term explicit tariff will be used to refer to the nominal tax published in the national tariff and levied by the customs authorities. Likewise the term explicit subsidy will refer to the nominal subsidy. The term implicit tariff will refer to the divergence between the foreign and domestic price created by a quota, target, or by a production or trade monopoly but neither published as a tax rate nor, as we indicate below, collected by the government. The implicit rate as defined, therefore, will have no necessary connection with the implicit or effective rate of the theory of effective protection. The term implicit subsidy will refer to the negative divergence between domestic and foreign prices determined by a target, or by a production or trade monopoly.

It will be assumed that the divergence between domestic and foreign prices which emerges under quotas will accrue to the trader in the case of imports and will be paid for by the trader in the case of exports. In other words, we shall suppose that quantitative restriction consists only of an administrative limitation upon trade and not, as is often done, of a limitation plus a tax in the form of licence fee. This 'clean' assumption will enable us to identify the essential differences between quotas and tariffs and thus lay the foundation for a clear consideration of any combination of restrictions and taxes. Similarly, in the case of targets it will be assumed that any positive difference between domestic and foreign prices will accrue to the trader and that any negative difference will be paid for by the trader.

Finally, the initial framework of analysis will be Bhagwati's original four cases and two sub-cases suitably modified. The cases are, first, the perfectly competitive situation ; second, a situation which differs from the first only in that domestic production is monopolistic ; third, a situation which differs from the first only in that the quota is allocated to a monopolistic trader ; and, fourth, the situation of bilateral monopoly in which there is a monopolistic producer and a monopolistic trader to whom the quota has been allocated. Since this can yield any result depending on the behavioural assumptions made, it is, in turn, divided into two extreme sub-cases. The first is the situation in which the monopolistic producer is prepared to maximize profits at every level of trade chosen by the monopolist quota-holder and in which the trader maximizes his profits subject to this assumption about the producer's behaviour. The second is the situation in which the monopoly of trade is made over to the producer in the case of the quota. The analysis will then be extended to consider the monopoly of trade. Breaking with Bhagwati, however, both import and export restrictions are examined, the consideration of export restrictions enabling us to show that, in contrast to the symmetrical case for imports, quotas and tariffs may be equivalent where a production monopolist is confronted by a monopolist quota-holder. The use of targets for the expansion of trade finally induces the comparison of subsidies and targets.

The symbols used throughout are :

- P_F = foreign price
 P_D = domestic price
 t = rate of tariff or subsidy
 T = explicit tariff or subsidy where the trader subject to the tariff or subsidy is a monopolist
 S = total supply (production) of the commodity
 S_D = domestic supply (production) of the commodity
 S_F = foreign supply (production) of the commodity
 C = total cost of domestic production of the commodity
 D = total demand for the commodity
 D_D = total domestic demand for the commodity
 D_N = net domestic demand for the commodity, that is demand for the domestic production of the commodity
 D_F = foreign demand for the commodity

II. THE EQUIVALENCE OF MANDATORY TARGETS, QUOTAS AND TARIFFS

Imports

Case I : Demand, domestic supply, and foreign supply are perfectly competitive. Quotas are allocated perfectly competitively, which ensures that a given quota is entirely taken up, and targets are issued on a perfectly competitive basis.

Both the quota and the target are equivalent to the tariff. The demonstration is as follows.

The system for tariffs is

$$\begin{aligned}
 S_D &= S_D(P_D) & (1) \\
 S_F &= S_F(P_F) & (2) \\
 P_F(1+t) &= P_D & (3) \\
 S_D + S_F &= D & (4) \\
 D &= D(P_D) & (5)
 \end{aligned}$$

The first equation states that domestic supply is a function of domestic price, the second that foreign supply is a function of foreign price, the third that the domestic price is equal to foreign price plus the explicit tariff, the fourth that demand is equal to the sum of domestic and foreign supply and the fifth that total demand is a function of domestic price. With five equations and six unknowns, a given tariff rate t will determine the remaining unknowns, and hence the level of imports S_F . But the system is the same, with inessential modifications, if the control of trade is exercised by quota or target rather than by tariff : equation (2) must simply be read to mean that P_F is determined by the quota or target S_F , and t in equation (3) must be read to mean the implicit, not explicit, tariff. It follows that if the level of imports S_F is set as a quota or target, this will determine tariff rate t . The three devices are therefore equivalent. Geometrically this is demonstrated in Diagram 1 on p. 222.

Trade equilibrium under tariff t is achieved at T' where total demand D is equal to total supply $S_D + S_F$. The level of imports is TT' ($=FF'$), foreign price must be OW and, given tariff rate $\frac{OA - OB}{OB}$, domestic price must be OH .

If the tariff $\frac{OA - OB}{OB}$ is replaced by a quota or a target set for TT' imports, domestic price must be OH , foreign price OW and the implicit tariff

$$\frac{OH - OW}{OW} = \frac{OA - OB}{OB}. \text{ The equivalence of the three devices is manifest.}$$

Case II : Demand and foreign supply are perfectly competitive. Quotas and targets continue to be allocated and issued on a perfectly competitive basis. But production is monopolistic.

The quota and target are no longer equivalent to the tariff although they are equivalent to each other. This is demonstrated as follows.

The system for tariffs is

$$D = D(P_D) \quad (1)$$

$$S_F = S_F(P_F) \quad (2)$$

$$P_F(1 + t) = P_D \quad (3)$$

$$D_N = D(P_D) - S_F(P_F) \quad (4)$$

$$D_N = S_D \quad (5)$$

$$C = C(S_D) \quad (6)$$

$$\frac{d(S_D P_D)}{dS_D} = \frac{dC}{dS_D} \quad (7)$$

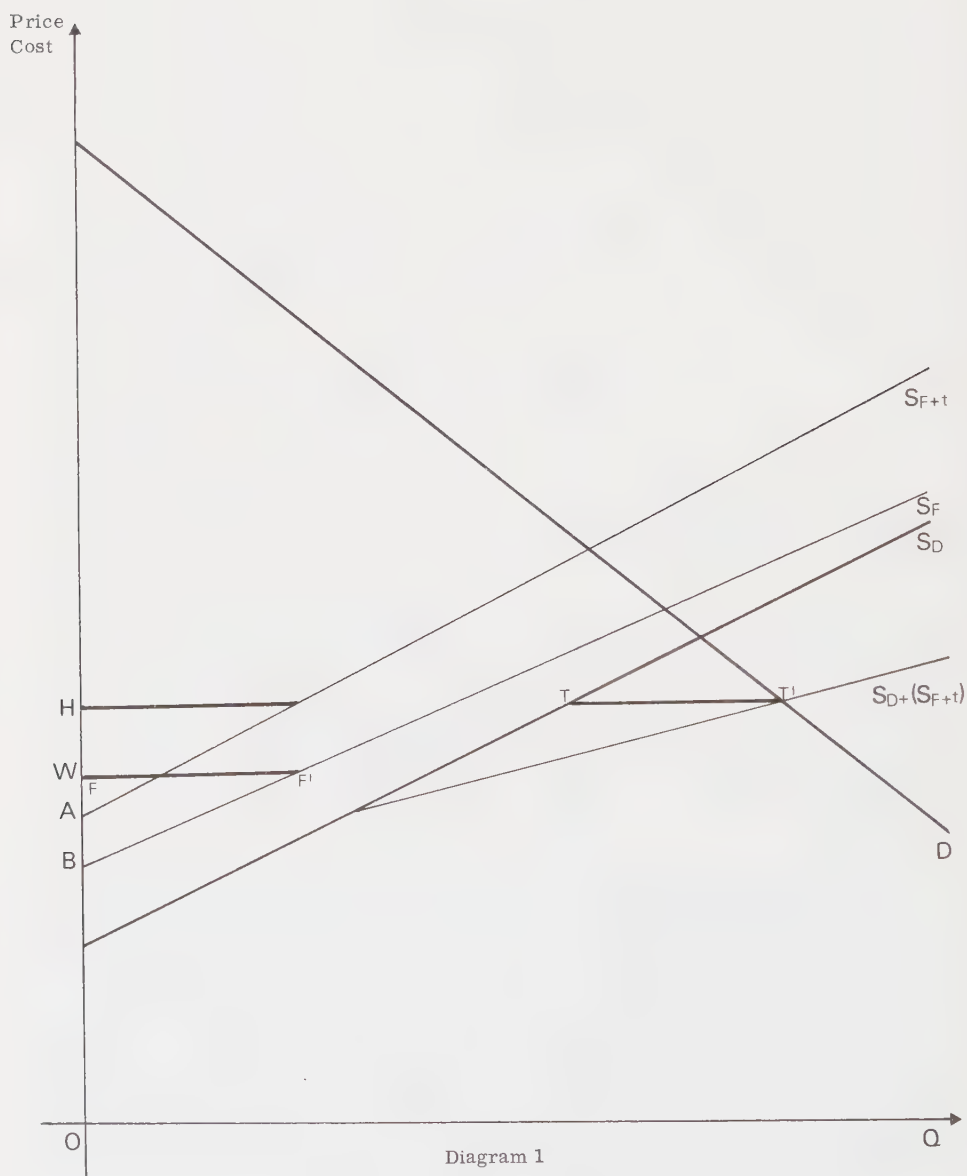
The first three equations are familiar. The fourth states that net domestic demand, that is the demand facing the domestic monopolist, is equal to total demand minus foreign supply. The fifth asserts that net domestic demand is equal to domestic supply, the sixth that total cost is a positive function of domestic supply, and the seventh expresses the profit-maximizing condition for the domestic monopolist. The system contains seven equations and eight unknowns. It follows that if the tariff rate t is given, the other unknowns, of which S_F , will be determined.

The system for the quota and the target is apparently the same, but there are two minor differences and a major one. The minor differences are those already noted in Case I. The major difference, which arises from the differences as between the two systems in equations (2), (4) and (5), is that marginal revenue will be different according to whether the trade restriction is a tariff or a quota or directive. Under a tariff

$$\frac{d(S_D P_D)}{dS_D} = \frac{d\{P_D[D(P_D) - S_F(P_F)]\}}{dS_D} = D \frac{dP_D}{dS_D} - S_F \frac{dP_D}{dS_D} + P_D \frac{dD}{dS_D} - P_D \frac{dS_F}{dS_D}.$$

Under the quota or target, however, with S_F constant, marginal revenue will be :

$$= D \frac{dP_D}{dS_D} - S_F \frac{dP_D}{dS_D} + P_D \frac{dD}{dS_D} \quad \underline{5/}$$



The final term which is dropped in the case of the quota or target is negative since the change in foreign supply is of opposite sign to the change in domestic supply. It follows that the rate of production at which the monopolist maximizes profits under a tariff will become a rate of production at which marginal cost exceeds marginal revenue if the tariff is replaced by a quota or target. To maximize profits under the quota or target, the producer will therefore have to reduce production until marginal cost and marginal revenue are equal again. The domestic price and the implicit rate will thus rise as compared to the situation in which the monopolist was producing subject to imports entering under an explicit tariff. This is illustrated in Diagram 2 on p. 224.

Given the tariff $\frac{OA - OB}{OB}$, net domestic demand will be D_{Nt} and the corresponding marginal revenue curve d_{nt} . Maximizing profits given this demand, the domestic monopolist will produce Q_t at price OH_t and, as total demand exceeds domestic supply by TT' at this price, TT' ($=FF'$) will be imported. The world price will be OW and $\frac{OH_t - OW}{OW} = \frac{OA - OB}{OB}$. If, on the other hand, a quota or target for TT' is introduced, domestic demand will be D_{Nq} and the corresponding marginal revenue curve d_{nq} . Maximizing profits given this demand, the domestic monopolist will produce Q_q at price OH_q . Since demand exceeds domestic production by TT' at this price, TT' equal to FF' will be imported, world price will be OW and the implicit tariff rate $\frac{OH_q - OW}{OW} > \frac{OH_t - OW}{OW} = \frac{OA - OB}{OB}$. The non-equivalence of tariffs, on the one hand, and of quotas and directives, on the other, is thus clear.

Case III : Demand, domestic and foreign supply are perfectly competitive. But the quota is allocated and the target issued to a single monopolistic trader.

The quota need not be equivalent to the tariff, but the mandatory target is. The demonstration is the following.

The system for the tariff is the same as in Case I. The system for the quota, however, is

$$S_D = S_D(P_D) \quad (1)$$

$$S_F = S_F(P_F) \quad (2)$$

$$P_F(1 + t) = P_D \quad (3)$$

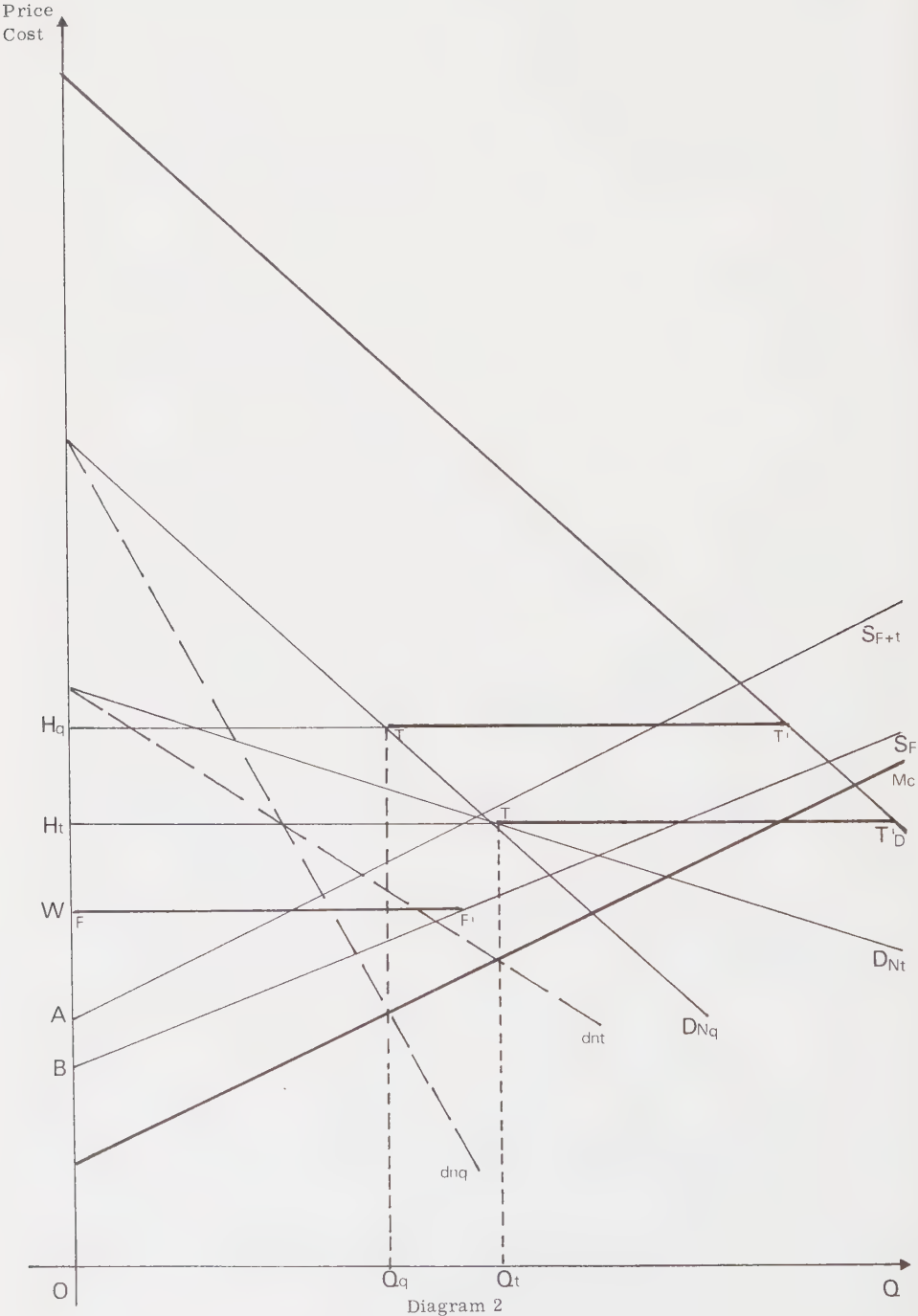
$$S_F = D(P_D) - S_D(P_D) \quad (4)$$

$$D = D(P_D) \quad (5)$$

$$\frac{d(P_D - P_F)S_F}{dS_F} \geq 0 \quad (6)$$

and, for the target, while equations (1) - (5) are again the same

$$\frac{d(P_D - P_F)S_F}{dS_F} \equiv 0 \quad (6)$$



The first five equations of the quota and target systems are familiar. (6) is the profit-maximization condition for the monopolist trader although under a target the maximum profit may be a loss. In the case of the quota, the equality sign holds if the monopolist uses up to his full quota, the inequality sign only if he uses it all. In the case of the target, the trader must import the full quantity set so that, depending on what this quantity is, he may maximize profits, make a profit without maximizing it because (6) is greater or less than zero, or actually make a loss with (6) being less than zero.

If the quantity of imports S_F determined by the introduction of the explicit tariff t is then set as a quota, the resulting implicit tariff will only be t if the monopolist finds it profitable to import the full quota. If, however, importing less than the full quota enables him to maximize profits, the implicit tariff will rise above t . But if the amount S_F is set as a mandatory target the implicit rate must always be t , for the importer is bound to import S_F . Thus the target is equivalent to the tariff but the quota need not be.

Diagram 3 on p. 226 illustrates a situation in which the solution under the quota will not be the same as under the tariff or target. As in Diagram 1 the quantity of imports determined by tariff $\frac{OA - OB}{OB}$ is TT' ($=FF'$), the world price OW and the domestic price OH , $\frac{OH - OW}{OW}$ being equal to the explicit tariff rate. But if TT' is set as a quota allocated to a single monopolistic quota-holder, the monopolist will attempt to maximize profits subject to the constraint of the quota, the demand for imports $D_M (= D - S_D)$ and the supply of imports S_F . As at import level TT' ($=FF'$), marginal cost (s_f) exceeds marginal revenue (d_m), he will therefore reduce imports to QQ' at which level marginal cost equals marginal revenue. Domestic price will rise to OH_q , world price fall to OW_q , and the implicit rate thus rise to $\frac{OH_q - OW_q}{OW_q} > \frac{OH - OW}{OW} = \frac{OA - OB}{OB}$. Under target TT' , on the other hand, the monopolist trader is obliged to import TT' , the implicit rate is equal to the explicit, but $s_f > d_m$, or $\frac{d(P_D - P_F)}{dS_F} > 0$. The target is thus equivalent to the tariff but the quota is not.

Case IV : (a) Demand and foreign supply are perfectly competitive. Domestic supply is monopolistic. The quota is allocated and the mandatory target issued to a monopolistic trader. The domestic producer is prepared to maximize profit subject to every quantity of the commodity which the monopolist trader can import, and the monopolist trader then maximizes his profit on the basis of this assumption about the producer's behaviour.

The quota is not equivalent to the tariff, the directive is not equivalent to the tariff and the quota may be more restrictive than the directive. This may be seen as follows.

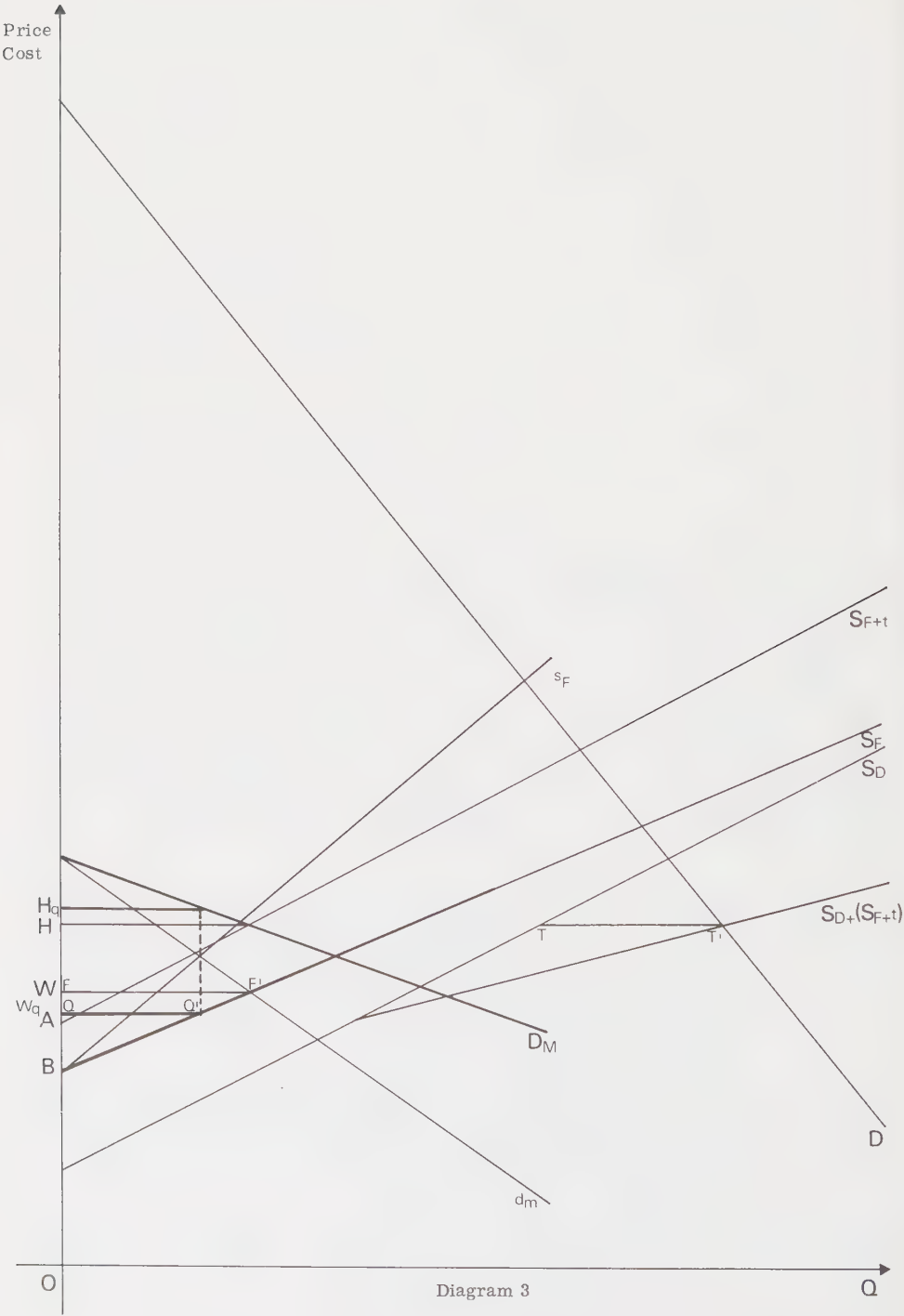


Diagram 3

The tariff system is the same as in Case II. But the quota system is

$$S_F = S_F(P_F) \quad (1)$$

$$P_F(1+t) = P_D \quad (2)$$

$$S_F + S_D = D \quad (3)$$

$$D = D(P_D) \quad (4)$$

$$\frac{d(P_D - P_F)S_F}{dS_F} \cong 0 \quad (5)$$

$$C = C(S_D) \quad (6)$$

$$\frac{d(S_D P_D)}{dS_D} = \frac{dC}{dS_D} \quad (7)$$

and the directive system differs from this only in that

$$\frac{d(P_D - P_F)S_F}{dS_F} \cong 0 \quad (5)$$

All the expressions are familiar.

If the quantity of imports S_F determined by the introduction of the explicit tariff t is set as a quota, the monopolist trader may find it profitable to import the full quota. If so, the implicit rate will be the same as in Case II, that is higher than the explicit rate, and (5) will be greater than zero. Or the trader may find that he can maximize profits by restricting imports to less than the full quota. Turning to Diagram 2 it is apparent that this will mean a shift of D_{Nq} to the right, and given the construction of the marginal from the average curve, a shift of d_{nq} by half as much to the right. Thus if the trader restricts imports below the full quota so that (5) is equal to zero, the implicit rate must rise higher still. But, under the directive which compels the trader to import S_F , the implicit rate is the same as under the full quota and, as in this case, remains higher than the explicit rate. Thus neither the quota nor the target is equivalent to the tariff, and the quota may be more restrictive than the target.

(b) Demand and foreign supply are perfectly competitive. Domestic supply is monopolistic. The quota is allocated and the target issued to the domestic producer who thus becomes a pure monopolist with two sources of supply, one domestic, one foreign.

The quota is not equivalent to the tariff, the target is not equivalent to the tariff and the quota may be more restrictive than the target. This is demonstrated as follows.

The tariff system is again the same as in Case II. The quota system, on the other hand, becomes :

$$S_F = S_F(P_F) \quad (1)$$

$$P_F(1+t) = P_D \quad (2)$$

$$S_F + S_D = D \quad (3)$$

$$D = D(P_D) \quad (4)$$

$$C = C(S_D) \quad (5)$$

$$\frac{d(P_F S_F)}{dS_F} \leq \frac{dC}{dS_D} = \frac{d(P_D D)}{dD} \quad (6) \text{ and } (7)$$

The equations are familiar except for (6) and (7) which are the profit-maximizing conditions of the pure monopolist. They state that given the quota the marginal cost of foreign supply is less than or equal to the marginal cost of domestic supply which is equal to marginal revenue.

The system for the target may be the same or may be the target system in Case II as we shall see.

If the quantity of imports S_F determined by explicit tariff t is set as a quota, the pure monopolist may find it profitable to import the full quota. In this case, the implicit rate will be higher than the explicit tariff and higher even than the implicit rate which would obtain if, given a production monopoly, the quota were allocated competitively as in Case II. And the marginal cost of foreign supply will be smaller than or equal to the marginal cost of domestic production. On the other hand, if the pure monopolist finds that he can maximize profits by restricting imports below the full quota, the implicit rate must rise higher than if the quota were used in full and the marginal cost of foreign production be equal to the marginal cost of domestic production.

If the amount S_F is set as a mandatory target, the pure monopolist will be compelled to import the full amount S_F . The solution will therefore be that of the full quota. But it might so happen that the directive was set so that the marginal cost of foreign supply exceeded the marginal cost of domestic supply. In this case the only possible equilibrium for the monopolist will be that of a production monopolist faced with a competitively allocated quota, in other words a solution as in Case II.

Diagram 4 on p. 229 enables us to illustrate some of these points. It represents the case in which the quantity of imports determined by a tariff t (and equal to FF') is set as a quota or target allocated to the monopolist producer who thus becomes a pure monopolist. In the example chosen, he is able to maximize profits while importing the full quota or the target and it is apparent that this will raise the implicit rate of protection above what it would have been if the same quota or target had been allocated competitively. Total supply is S which is equal to Q_p , the monopolist's own output, plus the full quota or target, FF' . S sells at price OH_p , so that the implicit rate of protection is $\frac{OH_p - OW}{OW} > \frac{OH_q - OW}{OW}$, the rate which would have obtained had the quota or target been allocated competitively. This in turn, as we showed in Case II, must be greater than the explicit tariff determining import level $TT' = FF'$. Further, it is clear that if, given the same demand, and the same foreign and domestic supply, the quota or target were set for more than FF' , the solution would be the same only in the case of the quota. For the monopolist would then be in a position to reduce imports below the quota limit and to maximize profits at S . But this would not be possible under a target, for the monopolist would be compelled to import the amount set. The only equilibrium open to him therefore would be that of a monopolist producer operating subject to a competitively allocated target.

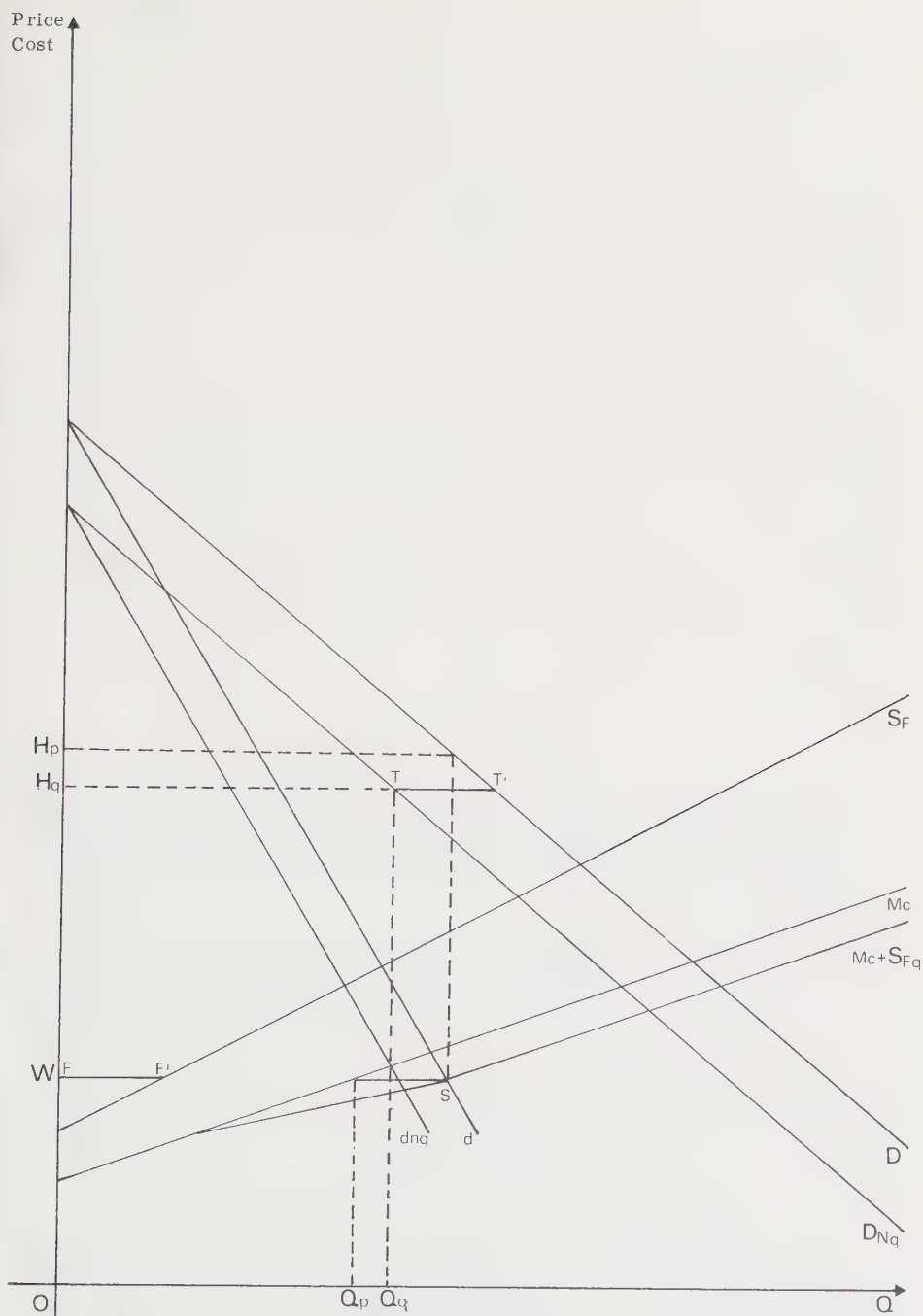


Diagram 4

the monopolist would be compelled to import the amount set. The only equilibrium open to him therefore would be that of a monopolist producer operating subject to a competitively allocated target.

Thus, to sum up in Case IV(b), the implicit rate under the quota will be higher than the explicit tariff and higher even than it would be if the quota were allocated competitively in the presence of domestic monopoly. This will be so if the quota is fully utilized and so a fortiori if it is less than fully utilized. The implicit rate under the target will also be higher than the explicit tariff although it need not be higher than it would be if the target were allocated competitively. And if the quota is not fully utilized, the implicit rate under the quota must be higher than it would be for a target set for the full amount of the quota.

Having completed our analysis of import restrictions we thus conclude first, and not unexpectedly, that mandatory targets or directives have the same effects as competitively allocated quotas or as monopolistically held quotas used in full. They are thus equivalent to fully utilized quotas. Our second conclusion is that targets will therefore be equivalent to tariffs under the same conditions as fully utilized quotas, that is under perfect competition or a monopoly of the trade restriction. But note that, whereas the target will always be equivalent to the tariff under these conditions, the quota will always be equivalent to the tariff under perfect competition, but need not be equivalent to it under a monopoly of the trade restriction : for a monopolistic quota need not be used in full. It follows that import targets are equivalent to the tariff under less restrictive conditions than import quotas.

But we still have to consider export controls.

Exports

When we turn to export restriction, the framework changes in two ways. An export tariff taxes, and no longer subsidizes, domestic production, and therefore reduces it. Further, whereas imports compete with domestic production to supply domestic demand, in the case of exports foreign demand competes with domestic demand for domestic production. Bearing this in mind, we turn to the cases analysed so far.

Case I : Domestic and foreign demand and domestic production are perfectly competitive, quotas are allocated and targets issued competitively.

Tariffs, quotas and mandatory targets are equivalent. The demonstration is the following.

The system for tariffs is the following :

$$S = S(P_D) \quad (1)$$

$$D_D = D_D(P_D) \quad (2)$$

$$D_F = D_F(P_F) \quad (3)$$

$$S = D_D + D_F \quad (4)$$

$$P_F(1 - t) = P_D \quad (5)$$

where equation (1) states that supply is a function of domestic price, equation (2) that domestic demand is a function of domestic price, equation (3) that foreign demand is a function of foreign price, equation (4) that supply is equal to the sum of domestic demand and foreign demand, and equation (5) that domestic price is equal to the foreign price minus the explicit tariff.

With these five equations and six unknowns, a given tariff t will determine the other variables including D_F . If this is then set as a quota or target it will determine the same implicit rate. For the only difference between the tariff system and the system for quotas and targets is that (3) must be read to mean that P_F will be determined by the quota or target D_F , instead of D_F depending on P_F , and that t in (5) is the implicit not the explicit tariff.

Case II : Domestic and foreign demand are perfectly competitive, quotas and targets are allocated and issued on a perfectly competitive basis, but production is monopolistic.

The quota and target are no longer equivalent to the tariff, although they are equivalent to each other.

The system for the tariff is

$$\begin{aligned}
 D_D &= D_D(P_D) & (1) \\
 D_F &= D_F(P_F) & (2) \\
 D &= D_D(P_D) + D_F(P_F) & (3) \\
 S &= D & (4) \\
 P_F(1 - t) &= P_D & (5) \\
 C &= C(S) & (6) \\
 \frac{d(SP_D)}{dS} &= \frac{dC}{dS} & (7)
 \end{aligned}$$

where equations (1), (2) and (5) are the same as in Case I. Equation (3) states that total demand is equal to domestic plus foreign demand, equation (4) that total supply is equal to total demand, equation (6) that total cost is a function of supply, and equation (7) expresses the profit-maximizing condition for the monopolist producer.

The system for the quota and the target is apparently the same except that (2) must be read to state that P_F is the price given the quota or target D_F , that t in (5) must be read to mean the implicit tariff, and that (7) is crucially different. For in the case of the tariff

$$\frac{d(P_D S)}{dS} = D_D \frac{dP_D}{dS} + D_F \frac{dP_D}{dS} + P_D \frac{dD_D}{dS} + P_D \frac{dD_F}{dS} \text{ whereas in the case of the quota or target the last term disappears owing to the constancy of foreign demand.}$$

It follows that the rate of production at which the monopolist maximizes profits under a tariff will be a rate of production at which marginal cost will exceed marginal revenue under a quota or target, so that the producer will have to reduce production in order to bring marginal revenue and marginal cost into equality again. Under a quota or target the domestic price will therefore rise as compared to what it was under the tariff, but, in contrast to the case of an import restriction, this will reduce, not increase, the implicit rate of protection.

This may be seen in Diagramm 5 on p. 223. Given tariff $\frac{OB - OA}{OB}$, the monopolist producer will maximize profits given his supply curve Mc and the total demand curve $D_D + (D_F - t)$. This will lead him to produce Q_t at price H_t of which TT' ($=FF'$) will go for export. The foreign price will be OW , and the tariff rate will be $\frac{OW - OH_t}{OW} = \frac{OB - OA}{OB}$, the explicit rate. If, however, TT' is set as a quota, the monopolist will maximize profits subject to total demand $D_D + D_{FQ}$. He will then produce Q_q at price H_q of which TT' ($=FF'$) will be exported. But as the domestic price has risen, the world price remaining the same, the implicit rate will now be $\frac{OW - OH_q}{OW} < \frac{OB - OA}{OB}$, the explicit tariff. The solution will be the same in the case of the target.

Note that given a competitively allocated import quota, the domestic monopolist will assume that it will be imported whatever the domestic price, for he knows that it must be taken up although he need not know at what price. In the case of a competitively allocated export quota, on the other hand, he cannot ignore that it will not be taken up at a price which exceeds the world price at which it may be sold. Hence the truncated total demand curve of Diagram 5. In the case of the target, however, under which the competitive traders are compelled to export the amount set, the monopolist again assumes that the target will be met whatever the domestic price. The total demand curve thus becomes parallel to D_D along its entire length and lies to the right of it by the amount of the export target. This is not shown in Diagram 5.

Case III : Domestic and foreign demand and domestic production are perfectly competitive, but the quota is allocated and the target issued to a single monopolistic trader.

The quota need not be equivalent to the tariff, but the mandatory target is.

The system for the tariff is the same as in Case I. In the case of the quota it is

$$S = S(P_D) \quad (1)$$

$$D_D = D_D(P_D) \quad (2)$$

$$D_F = D_F(P_F) \quad (3)$$

$$D_F = S(P_D) - D_D(P_D) \quad (4)$$

$$P_F(1 - t) = P_D \quad (5)$$

$$\frac{d(P_F - P_D)D_F}{dD_F} \cong 0 \quad (6)$$

and, in the case of the target, it is the same except that

$$\frac{d(P_F - P_D)D_F}{dD_F} \cong 0 \quad (6)$$

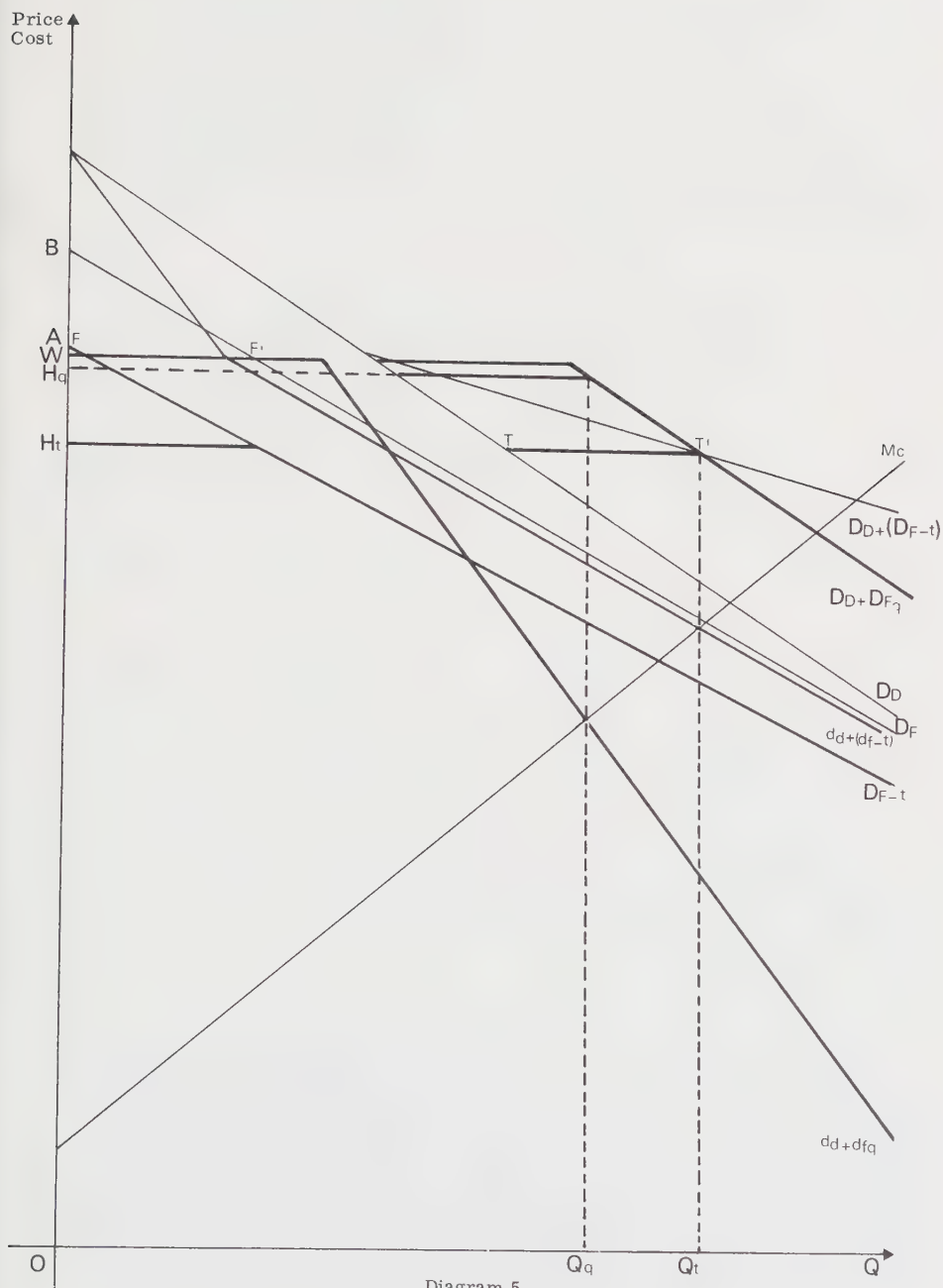


Diagram 5

The first five equations are familiar and the sixth is the profit-maximizing condition of the monopolist trader, although when trading subject to a directive, the profit may be a loss.

If the amount of exports D_F determined by explicit tariff t is set as a quota which is used in full, or as a target, the implicit rate of protection will clearly be the same as the explicit rate. And (6) ≥ 0 for both the quota and the directive. But if the monopolist trader exporting subject to a quota finds that he can maximize profits by restricting trade below the quota limit then the implicit rate of protection will rise above the explicit rate while (6) for the quota-holder becomes equal to 0.

Case IV : (a) Domestic and foreign demand are competitive, but production is monopolistic, and the quota is allocated and the target issued to a single monopolistic exporter. The monopolist producer is prepared to maximize profit subject to every quantity of the commodity which the trader is in a position to export, and the monopolist exporter then maximizes his profits on the basis of this assumption.

The quota may be equivalent to the tariff, the target is not equivalent to the tariff, and the quota need not be equivalent to the target. The demonstration is as follows.

The system for tariffs is the same as in Case II. But the system for the quota is

$$D_D = D_D(P_D) \quad (1)$$

$$D_F = D_F(P_F) \quad (2)$$

$$S = D_D + D_F \quad (3)$$

$$P_F(1 - t) = P_D \quad (4)$$

$$C = C(S) \quad (5)$$

$$\frac{d(SP_D)}{dS} = \frac{dC}{dS} \quad (6)$$

$$\frac{d(P_F - P_D)D_F}{dD_F} \geq 0 \quad (7)$$

and for the target it differs only in that

$$\frac{d(P_F - P_D) D_F}{dD_F} \equiv 0$$

All the expressions used in both systems are familiar.

If the amount of exports D_F determined by tariff t is set as a quota which is used in full or as a mandatory target, the domestic price must rise and the implicit rate fall below the explicit tariff as in Case II. In this case the rate of protection under the quota and target will be the same. But if the quota-holder finds that he can maximize profits by restricting exports below the quota limit the domestic price will fall and the foreign price will rise. The implicit rate will therefore rise and may be equal to or higher than the explicit tariff, and the rate of protection under the quota and target will be different.

(b) Domestic and foreign demand are competitive, production is monopolistic and the quota or target is made over to the monopolist producer who, therefore, is put into a position in which he may be able to discriminate between the domestic and the foreign market.

The quota and target will not be equivalent to the tariff and the quota need not be equivalent to the target. The demonstration is as follows.

The tariff system is again the same as in Case II. The quota system, however, is

$$D_D = D_D(P_D) \quad (1)$$

$$D_F = D_F(P_F) \quad (2)$$

$$P_F \cong P_D \quad (3)$$

$$S = D_D(P_D) + D_F(P_F) \quad (4)$$

$$C = C(S) \quad (5)$$

$$\frac{d(D_F P_F)}{dD_F} \cong \frac{dC}{dS} \cong \frac{d(D_D P_D)}{dD_D} \quad (6) \text{ and } (7)$$

and the target system differs only in that

$$\frac{d(D_F P_F)}{dD_F} \cong \frac{dC}{dS} \cong \frac{d(D_D P_D)}{dD_D} \quad (6) \text{ and } (7)$$

All the expressions are familiar except for (3) and (6) and (7). (3) describes both the situation in which there is an implicit tariff as in Case II, and the situation in which there is not owing to the monopolist practising discrimination. (6) and (7) which are the profit maximization conditions for the monopolist under a quota or a target and state that the marginal revenue from exports will be equal or unequal to marginal cost which, in turn, will be equal or unequal to marginal revenue from domestic sales. The inequalities occur if the monopolist is constrained to behave as though the export quota were competitively allocated as he must in the case of a target and may in the case of a quota. The equalities obtain if the monopolist can effectively discriminate between markets as he may in the case of a quota. Under a quota, which places a maximum but not a minimum limit upon exports, $\frac{d(D_F P_F)}{dD_F}$ can never be smaller than $\frac{dC}{dS}$. For, if it were, the

monopolist would simply reduce exports until the marginal revenue from export sales equalled their marginal cost. Under a target, on the other hand, he cannot do this since he is compelled to export the full amount.

If the quantity of exports D_F determined by an explicit tariff t is set as a quota which is fully used because the monopolist cannot discriminate between markets, or is set as a target, then the domestic price must rise and the implicit rate fall as in Case II. And $\frac{d(D_F P_F)}{dD_F} > \frac{dC}{dS} \cong \frac{d(D_D P_D)}{dD_D}$. But if the monopolist is operating subject to a quota and can discriminate between markets then he will set one price for the export and one for the domestic market, and there

will no longer be an implicit rate for there will no longer be a domestic price for that part of production which is shipped abroad. In this case

$$\frac{d(D_F P_F)}{dD_F} = \frac{dC}{dS} \equiv \frac{d(D_D P_D)}{dD_D} \text{ if the quota constrains the extent to which}$$

the monopolist can discriminate or $\frac{d(D_F P_F)}{dD_F} = \frac{dC}{dS} = \frac{d(D_D P_D)}{dD_D}$ if he can

discriminate fully, and the solution will differ at once from the solution under tariff t and from the solution under the corresponding target, which is the same

as in Case II, and under which $\frac{d(D_F P_F)}{dD_F} \neq \frac{dC}{dS} \neq \frac{d(D_D P_D)}{dD_D}$

Diagram 6 on p. 237 represents a situation under which the monopolist can discriminate fully and maximize profits under the quota. The quota is quantity FF' . Operating subject to total demand $D_D + D_{Fq}$ the monopolist produces Q at domestic price H , equal to world price, W , and could sell HI to the domestic market and $IS (=WJ \leq FF')$ to the world market. But by doing so he would not maximize profits for, at price H , marginal revenue from domestic sales (d_d) lies above marginal cost (Mc) and, at $H (=W)$, marginal revenue from export

sales (d_f) lies below marginal cost (Mc). In other words $\frac{d(D_F P_F)}{dD_F} < \frac{dC}{dS} < \frac{d(D_D P_D)}{dD_D}$.

To maximize profits, the monopolist therefore expands domestic sales to level $H_M I'$ and contracts foreign sales to level $W_M J'$, domestic price falls from

H to H_M , world price rises from $W (=H)$ to W_M , and $\frac{d(D_F P_F)}{dD_F} = \frac{dC}{dS} = \frac{d(D_D P_D)}{dD_D}$.

As there is no domestic price for the exported products, there is no implicit rate of tax on exports.

If FF' were set as a target, the monopolist would continue to produce Q , would be compelled to sell FF' abroad and the remainder on the domestic market. As the total demand curve would lie to the right of the domestic demand curve by the amount of the target along its entire length, the domestic price would rise above H and, the world price for FF' being less than W , the monopolist would require a subsidy on exports. In other words, t , the implicit rate, would be negative. As, moreover, $\frac{d(D_F P_F)}{dD_F} < \frac{dC}{dS} < \frac{d(D_D P_D)}{dD_D}$, the monopolist would not maximize prices.

We find, therefore, after a consideration of export restrictions that, as in the case of imports, targets are equivalent to fully utilized quotas, and that they will always be equivalent to tariffs given perfect competition or only a monopoly of the target. But, in the case of quotas, we find that, while it remains true that they will be equivalent to tariffs given perfect competition and may be so given only a monopoly of the quota, they may also be so in Case IV(a) where a production monopolist confronts a monopolist quota-holder. Thus, in the case of exports, the quota is equivalent to the tariff under less restrictive conditions than it was in the case of imports, though not under less restrictive conditions than the target.

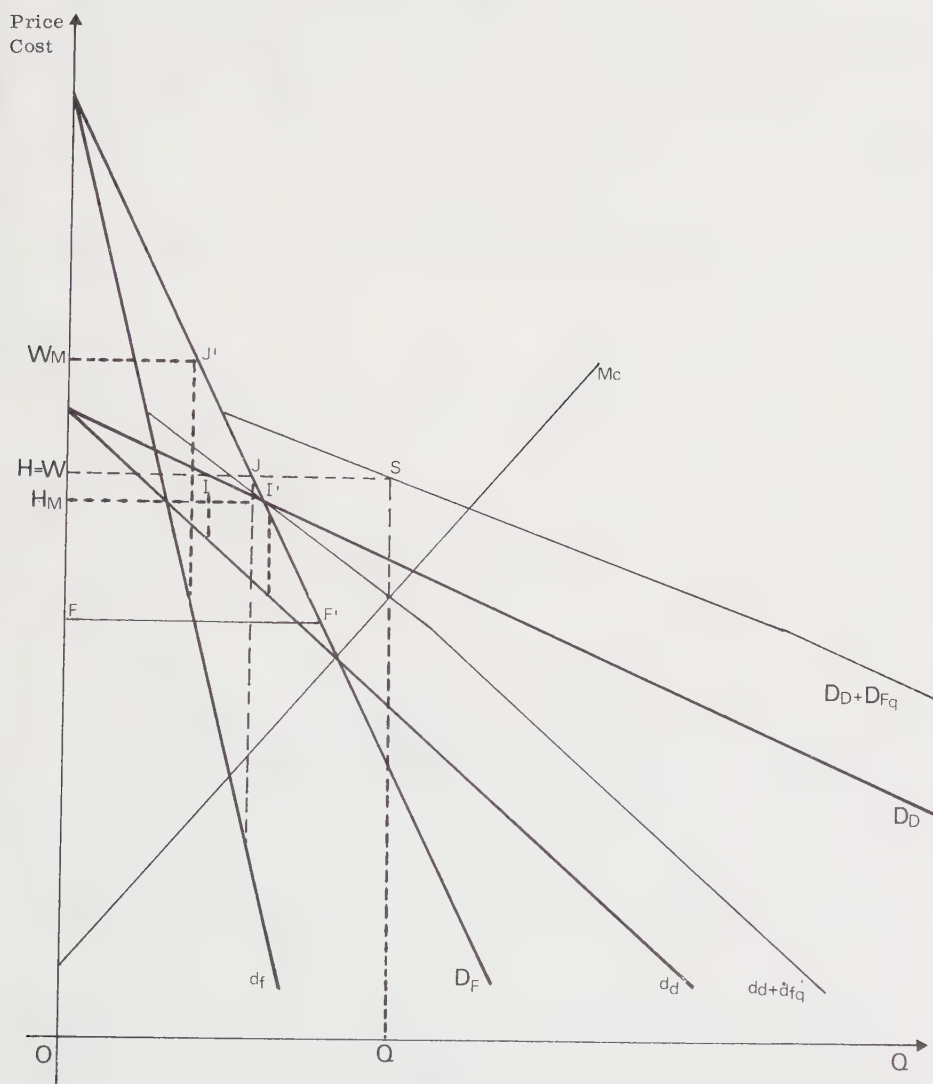


Diagram 6

III. THE EQUIVALENCE OF MANDATORY TARGETS AND SUBSIDIES

Finally, as we noted in Section I, mandatory targets can be used to expand trade and must therefore be compared to subsidies. Since subsidies are negative tariffs we would expect mandatory targets used to expand trade to be equivalent to subsidies in the same cases as mandatory targets used to restrict trade are equivalent to tariffs. And this in fact is what we do find. Since the demonstration that this is so requires only the substitution of $-t$ for $+t$ in the import systems and the substitution of $+t$ for $-t$ in the export systems, 6/ the analysis is left to the reader and we simply list the conclusions in each case.

Imports

- Case I : equivalence of targets and subsidies.
- Case II : no equivalence ; the implicit rate of subsidy will be lower than the explicit.
- Case III : reduces to Case I.
- Case IV : (a) reduces to Case II.
- (b) reduces to Case II.

Exports

- Case I : equivalence.
- Case II : no equivalence ; the implicit rate of subsidy will be higher than the explicit.
- Case III : reduces to Case I.
- Case IV : (a) reduces to Case II.
- (b) reduces to Case II.

In conclusion, we summarize the findings of Section II and III with respect to the equivalence of tariffs, subsidies, quotas and targets in the following table.

Table I

THE EQUIVALENCE OF TARIFFS, SUBSIDIES, QUOTAS AND TARGETS

Models		Import and Export Restriction		Import and Export Expansion	
		Tariffs and Quotas	Quotas and Targets	Targets and Tariffs	Subsidies and Targets
I.	Perfect competition	Yes	Yes	Yes	Yes
II.	Production monopoly	No	No	No	No
III.	Quota monopoly or Target monopoly	Not necessarily	Not necessarily	Yes	Yes
IV.	Production monopoly + Quota monopoly or Target monopoly	<u>Case (a)</u> Imports: No	Not necessarily	No	No
		Exports: May-be			
		<u>Case (b)</u> : No	Not necessarily	No	No

IV. THE MONOPOLY OF TRADE

The preceding sections have enabled us to show that tariffs, or subsidies, and targets will be equivalent under perfect competition or given only the monopoly of the target. And they have also shown that the target is more likely to be equivalent to the tariff than the quota. The reason for this, as may be seen from Table I, is that there are more causes of non-equivalence under the quota than under the target. Under the target, there is only one : the monopoly of production. Under the quota there are two : the monopoly of production and the monopoly of the quota.

There is a second cause of non-equivalence between the target and the tariff, however, and, indeed, a further source of non-equivalence between quotas and tariffs, and targets and quotas. This is the monopoly of trade. We turn to it in this section and, because of its particular importance in the countries resorting to the target control of trade, consider it in some detail.

To do so, we first set up systems for competitive free trade (i), then modify them for the presence of a trading monopoly (ii), then modify these for the presence of tariffs (iii), quotas (iv) and targets (v). As the quota and target systems are those of our preceding Cases III, IV(a) and IV(b), we call the three series of five systems, Cases III, IV(a) and IV(b). To speed things along, we consider the export and import systems concurrently, the export systems to the left, and the import systems to the right. Finally, we introduce a new symbol, Υ , to indicate the explicit, or nominal, tariff or subsidy.

Case III :

(i)

$$D_D = D_D(P_D) \quad S_D = S_D(P_D) \quad (1)$$

$$D_F = D_F(P_F) \quad S_F = S_F(P_F) \quad (2)$$

$$D_D + D_F = S \quad S_D + S_F = D \quad (3)$$

$$S = S(P_D) \quad D = D(P_D) \quad (4)$$

(ii)

$$D_D = D_D(P_D) \quad S_D = S_D(P_D) \quad (1)$$

$$D_F = D_F(P_F) \quad S_F = S_F(P_F) \quad (2)$$

$$S = S(P_D) \quad D = D(P_D) \quad (3)$$

$$D_F = S(P_D) - D_D(P_D) \quad S_F = D(P_D) - S_D(P_D) \quad (4)$$

$$\frac{d(P_F - P_D) D_F}{dD_F} = 0 \quad \frac{d(P_D - P_F) S_F}{dS_F} = 0 \quad (5)$$

$$\frac{P_D}{P_F} = 1 - t \quad \frac{P_D}{P_F} = 1 + t \quad (6)$$

(iii)

is (ii) with (5) modified to read

$$\frac{d[P_F(1 - \Upsilon) - P_D] D_F}{dD_F} = 0 \quad \frac{d[P_D - P_F(1 + \Upsilon)] S_F}{dS_F} = 0 \quad (5)$$

(iv)

is (ii) with (5) modified to read

$$\frac{d(P_F - P_D) D_F}{dD_F} \cong 0 \quad \frac{d(P_D - P_F) S_F}{dS_F} \cong 0 \quad (5)$$

The quota systems are thus those previously indicated for Case III.

(v)

is (ii) with (5) modified to read

$$\frac{d(P_F - P_D) D_F}{dD_F} \cong 0 \quad \frac{d(P_D - P_F) S_F}{dS_F} \cong 0 \quad (5)$$

The target systems are thus also those previously indicated for Case III.

Case IV(a)

(i)

$$\begin{array}{ll} D_D & = D_D(P_D) \\ D_F & = D_F(P_F) \end{array} \quad \begin{array}{ll} S_F & = S_F(P_F) \\ D & = D(P_D) \end{array} \quad \begin{array}{l} (1) \\ (2) \end{array}$$

$$\begin{array}{ll} D & = D_D + D_F \\ S & = D \\ C & = C(S) \end{array} \quad \begin{array}{ll} D_N & = D(P_D) - S_F(P_F) \\ D_N & = S_D \\ C & = C(S_D) \end{array} \quad \begin{array}{l} (3) \\ (4) \\ (5) \end{array}$$

$$\frac{d(SP_D)}{dS} = \frac{dC}{dS} \quad \frac{d(SP_D)}{dS_D} = \frac{dC}{dS_D} \quad (6)$$

(ii)

$$\begin{array}{ll} D_D & = D_D(P_D) \\ D_F & = D_F(P_F) \\ S & = D_D + D_F \end{array} \quad \begin{array}{ll} S_F & = S_F(P_F) \\ D & = D(P_D) \\ D & = D_F + S_D \end{array} \quad \begin{array}{l} (1) \\ (2) \\ (3) \end{array}$$

$$\begin{array}{ll} \frac{P_D}{P_F} & = 1 - t \\ C & = C(S) \end{array} \quad \begin{array}{ll} \frac{P_D}{P_F} & = 1 + t \\ C & = C(S_D) \end{array} \quad \begin{array}{l} (4) \\ (5) \end{array}$$

$$\frac{d(SP_D)}{dS} = \frac{dC}{dS} \quad \frac{d(SP_D)}{dS_D} = \frac{dC}{dS_D} \quad (6)$$

$$\frac{d(P_F - P_D)D_F}{dD_F} = 0 \quad \frac{d(P_D - P_F)S_F}{dS_F} = 0 \quad (7)$$

(iii)

is (ii) with (7) modified to read

$$\frac{d[P_F(1 - \gamma) - P_D] D_F}{dD_F} = 0 \quad \frac{d[P_D - P_F(1 + \gamma)] S_F}{dS_F} = 0 \quad (7)$$

(iv)

is (ii) with (7) modified to read

$$\frac{d(P_F - P_D)D_F}{dD_F} \cong 0 \quad \frac{d(P_D - P_F)S_F}{dS_F} \cong 0 \quad (7)$$

The quota systems are thus those previously indicated for Case IV(a).

(v)

is (ii) with (7) modified to read

$$\frac{d(P_F - P_D) D_F}{dD_F} \cong 0 \quad \frac{d(P_D - P_F)S_F}{dS_F} \cong 0 \quad (7)$$

The target systems are thus also those previously indicated for Case IV(a).

Case IV (b)

(i)

is the same as in Case IV(a)

(ii)

$$D_D = D_D(P_D) \quad S_F = S_F(P_F) \quad (1)$$

$$D_F = D_F(P_F) \quad D = D(P_D) \quad (2)$$

$$S = D_D + D_F \quad D = D_F + S_D \quad (3)$$

$$P_D \neq P_F \quad \frac{P_D}{P_F} = 1 + t \quad (4)$$

$$C = C(S) \quad C = C(S_D) \quad (5)$$

$$\frac{d(P_F D_F)}{dD_F} = \frac{dC}{dS} = \frac{d(P_D D_D)}{dD_D} \quad \frac{d(P_F S_F)}{dS_F} = \frac{dC}{dS_D} = \frac{d(P_D D)}{dD} \quad (6) \text{ and } (7)$$

(iii)

is (ii) with (6) and (7) modified to read

$$\frac{dP_F(1 - \tau)D_F}{dD_F} = \frac{dC}{dS} = \frac{d(P_D D_D)}{dD_D} \quad \frac{dP_F(1 + \tau)S_F}{dS_F} = \frac{dC}{dS_D} = \frac{d(P_D D)}{dD} \quad (6) \text{ and } (7)$$

(iv)

is (ii) with (4) in the case of exports and (6) and (7) in the case of both imports and exports changed to $P_D \equiv P_F$ (4) and

$$\frac{dD_F P_F}{dD_F} \equiv \frac{dC}{dS} \equiv \frac{d(D_D P_D)}{dD_D} \quad \frac{d(P_F S_F)}{dS_F} \leq \frac{dC}{dS_D} = \frac{d(P_D D)}{dD} \quad (6) \text{ and } (7)$$

In other words, the quota systems are those previously indicated for IV(b).

(v)

is (ii) with, in the case of exports, (4) and (6) and (7) modified to

$$\frac{P_D}{P_F} = 1 - t \quad (4) \text{ and}$$

$$\frac{d(D_F P_F)}{dD_F} \equiv \frac{dC}{dS} \equiv \frac{d(D_D P_D)}{dD_D} \quad (6) \text{ and } (7)$$

and, in the case of imports, (6) and (7) the same as under (iv) or the same as for Case II.

The corresponding systems for subsidies and targets have not been included since they require no very great changes as compared to those for tariffs and targets. The essential change is the replacement of τ by $-\tau$ in the tariff systems to obtain the subsidy systems. The sign of t , on the other hand, does not necessarily change with the sign of τ , as we explain below. The second change is that in the target systems under Cases III and IV(a), as well as IV(b) for imports, the marginal cost of imports or exports must exceed the marginal revenue to be obtained from them if the target is to be used for expansionary purposes. As a result the only equilibrium open to the monopolist in Case IV(b) for imports will be that of a monopolist of production facing a competitively allocated target. In Case IV(b) for exports, on the other hand, the monopolist given a target will produce subject to total demand, that is as though he were producing subject to a competitively allocated target, and the marginal cost of exports may therefore lie below the marginal revenue from exports.

In the preceding systems, the only expressions which are not familiar are (5) in Case III (iii), (7) in Case IV(a) (iii), which is the same, and (6) and (7) in Case IV(b) (iii), for both exports and imports. (5) in Case III (iii), and (7) in Case IV(a) (iii), for exports state that the exporter will maximize profits when the marginal revenue from sales abroad minus the tariff is equal to the marginal cost of the export product on the domestic market; for imports, it states that the trader will maximize profits when the marginal revenue from imports is equal to the marginal cost of the imported product on foreign markets plus the tariff. (6) and (7) in Case IV(b) (iii) for exports states that the trader will maximize profits when the marginal revenue from foreign sales minus the tariff is equal to the marginal cost of production is equal to the marginal revenue from domestic sales. For imports it states that the trader will maximize profits when the marginal cost of imports abroad plus the tariff is equal to the marginal cost of domestic production is equal to marginal revenue.

Comparing systems (i) and (ii) in each case shows that the introduction of a trade monopoly will generally restrict trade as compared to the competitive free trade situation. The exception to this is the case of the export producer with a monopoly of export trade who will be in a position to discriminate between markets and who may therefore expand exports (Case IV(b)). The introduction of a monopoly will thus normally generate an implicit tariff.

Comparing systems (iii) to systems (ii), we see that, owing to the monopoly power of the trader, the implicit tariff rate will always exceed the nominal rate. t , in other words, will be greater than τ . And for the same reason, the implicit subsidy will always be lower than the explicit subsidy. Indeed, if the power of the monopolist is great enough, and the subsidy small enough, the implicit subsidy will be a tax. t , in other words, instead of always taking a minus sign in the case of imports and a plus sign in the case of exports, may do the reverse in both cases.

Comparing systems (iii) to systems (iv) and (v), in turn, it is evident that, given a trade monopoly, the tariff and quota or target are not equivalent. But this does not appear if we apply the equivalence test we have used so far. For if the quantity of trade determined by a tariff is set alternatively as a quota

or target, the implicit rate will remain the same. It does appear, however, if we test the converse proposition which is that if the rate of divergence between domestic and foreign prices determined by a quota or target is set alternatively as a tariff, the level of trade will remain the same. For, doing so, we find, first, by virtue of the relationship between the explicit and implicit tariff given a monopoly of trade, that the replacement by an equal explicit tariff of the rate of divergence between domestic and foreign prices determined by a quota or target will normally lead to a contraction of trade and a rise in the implicit rate. And we find, second, that where a quota or target enables a trader to maximize profits, its replacement by any tariff, however low, will result in trade reduction. The equivalence propositions thus clearly break down.

They do so also in the case of subsidies and targets. For, although if the level of trade determined by a subsidy is set alternatively as a target, the same implicit rate of subsidy will result, if the rate of divergence between domestic and foreign prices determined by a target is set alternatively as a subsidy, there will generally be a contraction of trade and a fall in the implicit rate.

Comparing systems (iv) and (v), finally, we see that they also differ. For, although if a quota is replaced by a target for the same amount, the solution will not alter, if, conversely, a target is replaced by a quota, there may, because the quota need not be used in full, be a contraction of trade and a rise in the implicit rates as pointed out earlier in Section II.

The diagrammatic analysis which, for quotas and targets, is the same as that already undertaken in Section II, may be built up on the basis of Diagrams 2-6.

Thus, under a monopoly of trade, tariffs and quotas are not equivalent, tariffs and targets are not equivalent. If, therefore, we were to draw up a table like Table I given a monopoly of trade, we would find that all entries for quotas and targets under the relevant cases, that is Cases II, IV(a) and IV(b), would read "Not necessarily", and that all other entries would be negative.

We now turn to the conclusions of our analysis.

V. CONCLUSIONS AND SOME POLICY INFERENCES

The first conclusion to be drawn from the preceding analysis is that the mandatory target is equivalent to the fully utilized quota, or quantitative limitation. It thus possesses the quality of certainty often attributed to the quota but which, as Bhagwati has shown, is not a necessary characteristic of quantitative limitation.

The second conclusion is that Bhagwati's demonstration that the quota is not normally equivalent to the tariff, as was previously supposed, applies also to targets and tariffs or subsidies. In most of the cases considered tariffs, or subsidies, and targets were not equivalent.

The third conclusion is that the target is nevertheless more likely to be equivalent to the tariff than the quota. For the monopoly of the target cannot be a cause of non-equivalence, whereas the monopoly of the quota can. There is thus a source of non-equivalence under the quota which is absent under the target.

The fourth conclusion is that, just as the monopoly of production is one cause of non-equivalence between the tariff and the quota, so it is between the tariff and the target. Thus, given monopolistic production but competitive trade, if the rate of divergence between domestic and foreign prices caused by a restrictive import target is alternatively set as a tariff, there must be a contraction of imports. Again, if an expansionary import target is replaced by a subsidy equal to the rate of divergence between domestic and foreign prices under the target, there must be a contraction of imports. On the other hand, if the target applies to exports, then its replacement by an 'equal' tariff or subsidy must lead to an expansion of trade.

The fifth conclusion is that, just as the monopoly of trade is a second cause of non-equivalence between tariffs and quotas, so it is between tariffs and targets, and may be between targets and quotas. Thus, it follows from our analysis that, given a monopoly of trade :

- i. the replacement of a restrictive target by a quota for the same amount may lead to a restriction of trade ;
- ii. the replacement of a restrictive target by a tariff equal to the rate of divergence between domestic and foreign prices under the target will normally restrict trade ;
- iii. the replacement of a restrictive target by a tariff lower than the rate of divergence between domestic and foreign prices under the target may restrict trade ;
- iv. the replacement of a restrictive target enabling the trader to maximize profits by any tariff, however low, must restrict trade ;
- v. the replacement of a restrictive target enabling the trader to maximize profits by a combination of an equal quota and a tariff lower than the rate of divergence between domestic and foreign prices under the target must restrict trade ; for the tariff increases the costs of the monopolist and thus is not redundant as it would be if trade were perfectly competitive ; ^{1/} similarly, the replacement of a target enabling the trader to maximize profits by the combination of an equal quota and a licence fee which is less than the rate of divergence between domestic and foreign prices under the target must restrict trade ;
- vi. the replacement of an expansionary target by a subsidy equal to the divergence between domestic and foreign prices under the target will normally lead to a contraction of trade ;
- vii. the replacement of an expansionary target by a subsidy higher than the divergence between domestic and foreign prices under the target may lead to a contraction of trade.

Clearly, these findings with respect to the equivalence of trade controls are relevant to any future international negotiations on state-trading to the extent that the enterprises concerned are monopolistic. But, more immediately, they have an obvious application in Eastern Europe where trading enterprises are essentially monopolistic and the abandonment of targets and their replacement by instruments enabling traders to respond more freely to market forces is being actively discussed or actually implemented.

Thus, considering both our fourth and fifth conclusions, our final comment must be that our analysis provides ample justification for the concern with all forms of monopoly which has been evident in Czechoslovakia and especially Hungary as the removal of directives has proceeded. For our findings emphasize the need for a breakdown of monopolistic units or, at least, the control of monopoly, if the replacement of restrictive targets by equal quotas or 'equal', or even 'lower', tariffs, and the replacement of expansionary targets by 'equal', or even 'higher', subsidies, is not to lead to unexpected contractions of imports and exports.

NOTES

- 1/ KINDLEBERGER, Charles P. : International Economics, Homewood, Ill., Richard D. Irwin Inc., fourth edition, 1968 (The Irwin Series in Economics), chapter 8.

MEADE, James E. : The Theory of International Economic Policy, Volume II : Trade and Welfare, London, Oxford University Press, 1955, chapter XI.

VANEK, Jaroslav : International Trade : Theory and Economic Policy, Homewood, Ill., Richard D. Irwin, Inc., 1962 (The Irwin Series in Economics), p. 288.
- 2/ BHAGWATI, Jagdish : "On the Equivalence of Tariffs and Quotas", Robert E. Baldwin et al. : Trade, Growth and the Balance of Payments, Essays in Honor of Gottfried Haberler. Amsterdam, North-Holland Publishing Company, 1965, pp. 53-67.

: "More on the Equivalence of Tariffs and Quotas", American Economic Review, March 1968, pp. 142-146, for an analysis of non-equivalence given the monopoly of trade and, for an extension of the analysis to the monopoly of foreign supply, which is not considered here,

SHIBATA, Hirofumi : "A Note on the Equivalence of Tariffs and Quotas", American Economic Review, March 1968, pp. 137-142.
- 3/ Meade, it is true, considers State trading in this context. MEADE, loc. cit., pp. 176-177. But, as we show in the following appendix, it does not constitute a separate instrument of trade control.
- 4/ MEADE, pp. 174/175, who states, however, that the quota determines the quantities bought and sold whereas, as Bhagwati has shown, this need not be true.
- 5/ BHAGWATI, pp. 57/58.
- 6/ Or, at least, this is the essential change. For in the target systems, given a monopoly of the target, it is clear that, with one exception, the marginal cost of imports or exports must exceed the marginal revenue to be obtained from them if the target is used for expansionary purposes. The exception is the case where a monopoly of exports is given to the monopolist producer and where the marginal revenue from exports may exceed their marginal cost.
- 7/ BHAGWATI, p. 66.

APPENDIX VCOMMUNIST DOCTRINE AND THE TRANSFORMATION OF THE
FOREIGN TRADE MONOPOLY

One question which has not been taken up is whether, given the changes in organization which it has undergone, the foreign trade monopoly remains the foreign trade monopoly ; in other words, whether the monopoly implies a given set of institutions and instruments of regulation, or only the control by the State, with no stipulation as to institutions, of the commanding height which is foreign trade. This doctrinal question is of interest in view of Lenin's rejection of tariffs as an instrument of trade control in a famous argument with Boukharin^{1/}, and the subsequent resolution by the 12th Party Congress in 1923 declaring changes in the mode of operation of the monopoly to be inadmissible.

The question has been much discussed, though not always rigorously.^{2/} The conclusions have been that the form which the monopoly takes is determined by objective conditions, that these have changed as the socialist economies have evolved, that the present needs of the socialist countries require a change in the organization of the monopoly, and that further stages in the evolution of its organization are to be expected. But it is stressed that "Despite all the changes introduced in the European socialist countries, the foreign trade monopoly persists. The changes in the management of foreign trade have simply improved the working of the foreign trade monopoly, which is generally considered to be the instrument of the State for controlling its external economic relations, and whose institutional expression is to be found in the fact that the State determines the conditions of, and grants the authority for, carrying out foreign trade."^{3/}

The identification of the monopoly with a specific institutional structure is thus abandoned. The monopoly stands revealed as the State's control of foreign trade, for the achievement of certain objectives, which were originally isolation from foreign capital and from paying tribute^{4/} and, more recently, have been the international division of labour between socialist countries, and their protection from the invasion of foreign capital, the devastation of economic crises and the unpredictability of the capitalist world market.^{5/} And it is explicitly recognized that the control of trade to these, or any other, ends, may be undertaken in a variety of ways.

These contemporary Communist conclusions seem at first sight to clash with Lenin's position as we have defined it. But, in fact, this would not seem to be so. For Lenin's refusal to countenance the tariff as an instrument of trade control is premised upon the monstrous differences between the poor and the very rich countries and upon the wealthy countries' ability to subsidize their exports and offset any tariff imposed by poverty-stricken Russia.^{6/} The implication would seem to be, therefore, that where the gap in wealth has narrowed, as it has between certain East European and Western countries, and where the very rich do not subsidize their exports, tariffs may be an appropriate instrument of foreign trade control and, more generally, the monopoly of trade may be compatible with all manner of institutional variations. This conclusion seems all the more plausible, moreover, in view of Lenin's proved pragmatism in

economic matters. For, given the State ownership of the means of production, his overriding concern was not the means but the objective of development in a country which, as he repeatedly stressed, was economically and technically backward.

Thus, the transformation of the foreign trade monopoly which the Eastern European economic reforms have initiated is, as we have seen, necessary in practice but is also, it would seem, doctrinally sound.

NOTES

- 1/ LENINE, Vladimir : "Le Monopole du Commerce Extérieur. Au camarade Staline pour la réunion plénière du C.C. "Oeuvres, Moscou, Editions en langues étrangères, 1963, Tome 33, août 1921-mars 1923, p. 468-472.

- 2/ For the Czechoslovak discussion see, for instance,
 PLEVA, Jan : "Monopoly and Central Management. (A Consideration of the State Monopoly in Foreign Trade.)" Hospodarske noviny, 1966, No. 50. In translation in Soviet and Eastern European Foreign Trade, Vol. IV, Summer 1968, pp. 72-82.
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- 3/ BRZAK and MARSIKOVA, p. 267.

- 4/ LENINE, Vladimir : "les tâches immédiates du pouvoir des soviets." Oeuvres, Moscou, Editions en langues étrangères, 1961, Tome 27, février-juillet 1918, p. 261.

- 5/ Politische Ökonomie, Lehrbuch, Akademie der Wissenschaften der UdSSR, Institut für Ökonomie, Berlin, Dietz Verlag, 1964. Nach der vierte, überarbeiteten und ergänzten russischen Ausgabe, p. 652.

- 6/ LENINE, Le mOnopole du Commerce Extérieur, p. 470.

CHAPTER FOUR

FOREIGN TRADE REFORM AND THE INTERNATIONAL
COMMERCIAL POLICY PROBLEMS OF EAST-WEST TRADE

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CHAPTER FOUR

FOREIGN TRADE REFORM AND THE INTERNATIONAL COMMERCIAL POLICY PROBLEMS OF EAST-WEST TRADE

In Chapter I, we showed the pre-reform framework to be a highly centralized command system operating on the basis of faulty domestic pricing. It isolated the domestic economy from the direct influence of world markets both because of the organization of the foreign trade monopoly and because of the practice of 'equalization', that is the resort to equalizing taxes and subsidies on trade. But, despite the high level of protection which it achieved, the system was not geared to autarky, unless this is redefined to mean something other than complete self-sufficiency.

In Chapters II and III, we showed reform to have led to decentralization, the liberalization of trade control, the correction of domestic prices, and the introduction of an automatic connection between domestic and foreign prices. The costs attached to central allocation, faulty domestic pricing, and associated with the divorce of domestic from foreign prices are thus being reduced. The elimination of the latter would also seem to be decreasing the cost of protection. Progress towards the objective of improved efficiency, which the reforms were initiated to achieve, seems therefore to be in train.

The emphasis on efficiency, which has led to the changes just listed, and the desire for technical innovation, have led further to a change in commercial policy. This has meant not only the accession of East European countries to international economic organizations, as noted at the end of Chapter III, but also the signing of important commercial treaties, the passing of legislation enabling foreign investors to contribute 49 per cent of enterprise capital in both Hungary and Romania, 1/ and the development of a new 2/ vehicle for technological transfer, namely industrial co-operation. Hence, the East Europeans' long-term objective of economic development which, during the early nineteen-fifties, was being promoted through forced industrialization and high protection is now, given the achievement of the desired structural change, being pursued by improving efficiency, encouraging innovation and, for both reasons, developing trade. Trade policy, correspondingly, which we defined as 'protection for industrialization' during the nineteen-fifties, may now more accurately be described as 'trade for development'.

REFORM AND INTERNATIONAL COMMERCIAL POLICY PROBLEMS

The question which remains to be considered is how the changes in trade control and policy are affecting the international commercial policy problems which obstructed East-West trade prior to the reforms. These constitute a complex rather than a series of difficulties which were defined when, towards the end of the nineteen-fifties, the East Europeans asked for an abolition of bilateral discrimination and a return to multilateral exchange subject only, in the West, to most-favoured-nation tariffs. The East Europeans contended that this was to ask merely for a return to normal trading conditions so that it neither required return concessions on their part nor permitted the introduction of special safeguards to protect domestic production in the West. ^{3/}

The Western countries objected that the East European request amounted to asking them to practise non-discrimination as between East European and other products and, given the tariff control of trade, to allow East European production to compete with their own products in domestic markets. They pointed out that the target control of trade and payments ^{4/} in East Europe was discriminatory and imposed severe limitations on multilateral exchange ; that the organization of the monopoly precluded the direct access of Western producers to East European markets ; and that equalization effectively eliminated all price competition between domestic and Western products on East European markets. For the West, the granting of most-favoured-nation treatment to the East European nations thus raised the question of reciprocity which, at one time, the Western nations seemed to equate with a change in the East European foreign trade system.

In the event, a formula for East-West reciprocity was elaborated which neatly severed the question of reciprocity from the question of a change in foreign trade control. It proposed the exchange of Western tariff and quota concessions against an increase in East European trade. ^{5/} We examine it in more detail in the Appendix to this Chapter.

But, in the meantime, the East European foreign trade system evolved, as this study shows. As we demonstrate, it changed in such a way as to meet, partly at least, the Western objection to the application of most-favoured-nation tariffs to East European trade. This is evident first with respect to the question of discrimination and multilateralism.

Discrimination and Multilateral Exchange

As we indicate in Chapter III, the discriminatory character of the East European foreign trade system has been reduced as a result of the reforms. This has been due to the liberalization of trade control and the associated consolidation of taxes and subsidies on trade, and to the reduction in the number of directional exchange rates. Discrimination as between the East European economies persists, however, and so does discrimination between the convertible and inconvertible currency areas. But so long as the East European currencies remain inconvertible, both types of discrimination will be necessary to the constrained efficiency of East European trade.

The factors which have led to a reduction of discrimination have also meant the injection of a greater degree of multilateralism ^{6/} into East European exchanges. This is so because, in East Europe, discrimination has often been associated with bilateral restrictions.

Both the reduction in discrimination and the increase in multilateralism should continue, moreover. This conclusion follows from the East European policy choice in favour of improved efficiency and an expansion of trade. But, more specifically, the gradual adoption and application of tariffs in East Europe ^{7/} and the measures being taken towards a return to convertibility of the East European currencies, should promote both non-discrimination and the elimination of bilateralism.

Market Access

The Western objection to the lack of market access has been met more strikingly. Direct access to East European markets has been considerably eased as a result of the decentralization of the foreign trade monopoly. It has been promoted in particular by the granting of trading rights to manufacturing enterprises, which has now occurred also in the USSR ; by the development of industrial co-operation ; by the right granted to foreigners to participate in the establishment of mixed companies in Hungary and Romania ; by the creation of organizations for the representation of foreign interests ; and, in response to a long-felt Western need, by the permission granted to foreign enterprises to establish their own agencies in the USSR and Romania. The present emphasis on trade in Eastern Europe should, moreover, ensure the multiplication of the avenues of access to East European markets.

Price Competition

The reforms, finally, are also answering the Western criticism concerning price competition between domestic and foreign products in East Europe. As we have shown, the linking of domestic and foreign prices is one of the major characteristics of reform in all East European countries with the exception of the USSR. It is being achieved by the gradual abandonment of equalization taxes and subsidies, their replacement by *ad valorem* taxes and subsidies, and the integration into enterprise accounts of foreign receipts and expenditures reflecting foreign prices. As we note in Chapter III, however, this part of the reform is being pursued farther and more rapidly on the export than on the import side. But in this sector also, the present emphasis on efficiency and trade generally, and the continued liberalization of trade specifically, should strengthen the influence of foreign on domestic prices and promote price competition between domestic and foreign products.

In sum, therefore, we may conclude in answer to the question of the effect of East European foreign trade reform on the international commercial policy problems of East-West trade, that the reforms have lessened, and sometimes removed, the grounds for the Western objection to the application of most-favoured-nation tariffs to imports from East Europe. The long-term policy objective, and the present policy emphases, of the East European countries suggest, moreover, a decrease in the discriminatory character of their foreign trade system, improvements in market access and an increase in price competition between domestic and foreign products.

II.

OBSTACLES TO TRADE IN EAST EUROPE

Despite the results just recorded, however, it would be foolish to underestimate the obstacles to non-discrimination, to market access, and to trade generally which persist in East Europe. For they remain impressive.

Central Direct Allocation

There is first, despite considerable decentralization in certain cases, the continued pervasiveness of central direct allocation. The target control of trade which it perpetuates is, as we argue in Chapter III, and despite the improvements noted in the preceding pages, a source of continued discrimination. The persistence of considerable centralization, moreover, means that, in many cases, the first contact with a potential East European client or supplier still takes place by way of lengthy negotiations with the appropriate central ministry or ministries. Furthermore, the system entails two costs which may slow up or discourage trade and which do reduce national product and thus trade potential. The first is the waste due to imperfect planning which we noted in Chapter I. The second is the cost of central allocation, other things equal, which we discuss in Chapter II, and which is most evident in the administrative apparatus and the wealth of red-tape. While it may be argued that any economic system has its costs, the burden of these two in East Europe is amply documented and is considered by the East Europeans themselves to be excessive. Hence central direct allocation in East Europe tends to perpetuate discrimination, to hamper market access, and to diminish the volume of trade.

Protection

The second obstacle to trade in East Europe is the continued high level of protection. As we have seen its post-war origin may be traced to the policy of forced industrialization which characterized the nineteen-fifties. It would seem, as we note in Chapter III, that the reforms have already reduced, and are proceeding to reduce, the level of protection. Nevertheless, our rough calculation in Appendix I, Chapter I suggests that it was very high before the reforms, and what evidence is available suggests that it has not been reduced very much since the reforms. Thus it probably continues to constitute an important barrier to trade in East Europe.

Inconvertibility

The third major obstacle to non-discrimination and to trade in East Europe is the inconvertibility of the East European currencies. It is a cause of discrimination for it implies bilateralism except in relation to an area of convertible currencies. It is an obstacle to trade because it restricts trade in three ways.

First, inconvertibility implies overvaluation and thus payments restrictions and subsidies. If these were applied in a non-discriminatory fashion with respect to both commodities and countries, they would amount to a de facto devaluation and would not be an obstacle to trade. But the restrictions and subsidies are normally applied piecemeal and at different rates, with the result that inconvertibility becomes a separate cause of protection and hence a barrier

to trade. Second, inconvertibility means that payments have to be balanced not overall but with every trading area. Since this is unlikely to be a natural arrangement it will tend to reduce trade below the level it would achieve within a multi-lateral framework. ^{8/} In relation to the West, the inconvertibility of the East European currencies means that East European trade is limited by the earnings of the East European countries on Western markets. Finally, as we showed in Chapter I, the multitude of trade taxes and subsidies which arise given over-valuation and inconvertibility results in inefficient trade, hence a reduction in national product and in trade potential.

Note that if central direct allocation, high protection and inconvertibility constitute considerable barriers to trade, they also impose a substantial burden upon the East European economies. The cost of central allocation and of inconvertibility have just been defined. Both are recognized in East Europe and are the subject of measures to improve them or, in the case of inconvertibility, gradually to abandon them. The cost of protection may be gauged from the rough calculations presented in Appendix I of Chapter I. It was concluded there that the cost of protection in the smaller East European countries was probably comparable to the cost of protection in developing countries and that it may have been so high as to equal the annual rate of growth.

III.

SUMMARY

In considering the changes in East European trade control and policy and the international commercial policy problems of East-West trade we have concluded, first, that the reforms are in the process of meeting the Western objections to the application of most-favoured-nation tariffs to imports from East Europe. We have concluded, second, that the obstacles to trade constituted by certain aspects of the East European foreign trade systems remain important. The first conclusion should lead Western authorities to continue to extend the application of most-favoured-nation tariffs to imports from East Europe. The second should prompt them to retain their discriminatory controls in order to exchange them for a reduction in the level of East European barriers to trade. No doubt a little of both is occurring. On the one hand, the evolution of the East European foreign trade system together with competition amongst Western nations for East European markets is encouraging the unilateral liberalization of East European imports in the West. On the other hand the countries which have most price-making power in one or more markets are retaining their restrictions in order to bargain with the East European countries.

The importance of the East European barriers to trade, the growing recognition of the burden they impose on the East European economies and the emphasis now placed by the East European authorities on efficiency and trade suggest two further conclusions. The first is that the present is an especially favourable time for negotiation with the East European economies. The second is that, given the height of protection in East Europe, such negotiation could prompt a remarkable expansion of East-West trade. Independent estimates of the rise in East-West European trade which make no allowance for price effects suggest that it will be rapid within the next few years. If the price effects resulting from a reduction in East-West trade barriers were added to this, the results could be remarkable. ^{9/}

It may be objected that the West has no specific commercial policy instruments with which to conduct such a negotiation. For clearing agreements with East Europe were abandoned with few exceptions when the major Western European currencies returned to convertibility at the end of the nineteen-fifties and, since then, the West has substantially liberalized its trade with East Europe. But the West has at least three bargaining counters which it can exchange for a reduction in East European trade barriers. The first are the remaining discriminatory restrictions which, it would seem, are now concentrated on particularly sensitive items, that is on items in which the West could expect to see a particularly sharp rise in imports if restrictions were lifted. The second is credit. The third is technology. There is already evidence that the West is buying a reduction in East European trade barriers in exchange for technical co-operation. ^{10/} But here as in the case of credit terms the Western nations are competing against each other. Fully to exploit their bargaining position they should present a common front, as the Community, in elaborating its common East European policy, is attempting to do.

The present study has not attempted to quantify the implications for the level of East-West trade of East-West negotiations for a reduction of trade

barriers. Considerably more information on price differences and elasticities than is readily available at present would be needed to undertake this. All that has been attempted has been to present and analyse the changes in economic system and commercial policy in East Europe which are facilitating and promoting trade and which, according to the thesis presented in this study, should increasingly do so. These changes are of interest to individual traders operating in the East European markets. They have their implications for trade negotiations. They should also encourage the West to allow the East European nations to accede to the international economic organizations to which they are applying, in order to subject these increasingly important traders to a common code of conduct for world trade and payments.

NOTES

- 1/ Décret No. 28/1972/X.3./PM du ministre des finances (de la République Hongroise) sur les associations économiques à participation étrangère.

Decree on Constitution, Organization and Operation of Joint Companies in the Socialist Republic of Romania, and

Decree Regarding Tax on Profits of Joint Companies Constituted in the Socialist Republic of Romania, Official Bulletin of the Socialist Republic of Romania, November 2, 1972, No. 424.
- 2/ new as between East and West, for many of the forms of industrial co-operation which have multiplied as from the middle of the nineteen-sixties essentially, are to be found either in East European co-operation, or in co-operation between Western countries, or as between the developed and the developing countries.
- 3/ For this discussion see the reports of the United Nations' Economic Commission for Europe's Committee on the Development of Trade.
- 4/ the terms are those defined and used throughout this study, not those used in the actual discussions.
- 5/ See especially GATT, Accession of Poland. Report of the Working Party. L/2803, 23 June 1967, and GATT, Accession of Romania. L/3601, 21 October 1971, pp. 14 and 7, respectively.
- 6/ Note that although non-discrimination implies multilateralism the converse is not true : multilateralism is compatible with preferential tariffs. In East Europe discrimination was often the result of bilateral restrictions however. Thus the reduction in discrimination led to an increase in the degree of multilateralism.
- 7/ Romania published its tariff in June 1973.
- 8/ MEADE, James E. : The Theory of International Commercial Policy : Vol. II : Trade and Welfare. London, Oxford University Press, 1955 ; pp. 505-507.
- 9/ Rapport analytique sur la situation du commerce intra-européen. E/ECE/761/Rev.1. Nations Unies, New York, 1970 ; pp. 108-110.
- 10/ Ibid., pp. 171/172.

IV.

Chapter IV

APPENDIX IRECIPROCITY AND RECIPROCITY FORMULASI. DEFINITION AND FORMULAS

Reciprocity may be defined as the 'principle or practice of give-and-take, especially (the) interchange of privileges between States as (the) basis of commercial relations.' ^{1/} It describes the exchange, for instance, of a reduction in the level of protection of one country in return for an equivalent reduction in the level of protection of another country. The principle of reciprocity implies that the country which makes the concession suffers a loss, for otherwise it would not need to be compensated by the action of its partner. ^{2/} It also implies negotiation, for the loss sustained by the first country must be made good by a deal concluded with the second.

The principle of reciprocity will always tend to clash with the principle of non-discrimination. For if one country exchanges favours with another country but, at the same time, extends those favours to all other countries 'without payment', as the principle of non-discrimination requires, it is likely to give more than it takes. This difficulty, in a world trading system based on the principle of non-discrimination, has given rise to a number of solutions. A first has consisted in nominally maintaining, while effectively abandoning, the most-favoured-nation clause either by adopting its conditional form, ^{3/} or by restricting its unconditional form, ^{4/} or by resorting to the quantitative control of trade. ^{5/} A second solution has been to minimize the cost of non-discrimination by negotiating reciprocal benefits only with the principal supplier of a product. ^{6/} The third has been simply to abandon reciprocity while retaining non-discrimination. ^{7/}

While the notion of reciprocity is universal, the concessions expected to bring it about have differed according to the economic organization of the negotiating partners. In 1892, Taussig described the usual form of reciprocity as 'the remission or reduction of duties in return for similar favours by foreign countries.' ^{8/} In 1968, Bhagwati noted that the reciprocity of benefits insisted upon by the developing countries among themselves consisted of the 'balancing of incremental trade flows rather than demand of identical tariff cuts or any other method'. ^{9/} The formula now accepted between the East European and the Western developed economies consists of an exchange of Western tariff and quota, that is implicit tax, concessions against an expansion of East European imports. It was arrived at after a lengthy argument in which reciprocity seemed to depend on non-discrimination, and which we briefly relate because it points up the difficulties involved in elaborating a definition of reciprocity when the economic organization and control of trade in the negotiating countries differ.

Towards the end of the nineteen-fifties, when the West European countries had abandoned the major share of the quantitative restrictions they maintained on industrial trade and their currencies had again been declared convertible,

the East Europeans requested that their trade with the West be no longer subject to discriminatory controls but to most-favoured-nation tariffs. ^{10/} They contended that this was to ask merely for a return to normal trading conditions so that it neither required return concessions on their part nor permitted the introduction of special safeguards to protect domestic production in the West. The West replied that the East European request amounted to asking it to practice non-discrimination as between East European and other products, and to allow price competition to take place between East European products and their own domestic production. It pointed out that the organization of trade in Eastern Europe was incompatible with non-discrimination and price competition between domestic and foreign products, and concluded that to grant most-favoured-nation treatment to East European imports raised the question of the equal access of Western products to East European markets. The West, in other words, considered that the abolition of discriminatory controls required reciprocity in the form of a change in the East European foreign trade system.

Had the West insisted that reciprocal action entail complete non-discrimination in international markets on the part of the East European countries, as well as price competition between domestic and foreign products within the East European economies, reciprocal concessions between East and West might well have been postponed to the long run in which, as Keynes pointed out, we are all dead. But, in 1963, the Ad Hoc Group set up by the United Nations' Economic Commission for Europe to study problems of east-west trade agreed that "effective reciprocity ... should be measured in terms of ... the increase in the volume and composition of trade between countries with different systems which would satisfy the trading partners ..." ^{11/} and remarked that "the acceptance of mutual obligations with respect to the application of most-favoured-nation treatment, non-discrimination in customs tariffs, quantitative restrictions, licensing etc., (would) not, however important in themselves, necessarily lead to the desired development of trade." ^{12/} The question of reciprocity was thus neatly severed from the issue of non-discrimination and a formula suggested which received more precise definition first in the case of Poland's accession to the General Agreement on Tariffs and Trade in 1965, and then in the case of Romania's accession to the Agreement in 1971. Poland's initial undertaking was to increase its imports ^{13/} from the contracting parties by not less than 7 per cent per annum to 1971, in exchange for the tariff benefits deriving from its accession, and an undertaking by the contracting parties not to increase and progressively to dismantle their quantitative restrictions on Polish trade. ^{14/} In 1971, Poland's concession was then changed to an undertaking to increase its imports from the contracting parties by 7 per cent per annum on average. Romania undertook to increase its imports from the contracting parties at a rate no lower than the rate of growth of its total imports in exchange for the tariff benefits deriving from its accession and an undertaking by the contracting parties not to increase their quantitative restrictions on Romanian trade and to dismantle them by the end of 1974. ^{15/}

In what follows we shall consider two questions raised by the East-West formula. The first is whether the exchange of a reduction in trade barriers against an increase in trade can achieve reciprocity for the countries which

reduce their trade barriers ; the second is, assuming that it can, under what conditions will it do so. Note that though they have a present application in the case of the Western liberalization of trade with the East European countries, the two questions are perfectly general. To answer them we shall review the theories of reciprocity advanced both within the traditional framework of trade theory and without it, and then suggest an alternative explanation. We conclude that the East-West formula for reciprocity does enable negotiating countries to avoid the economic loss resulting from a reduction of trade barriers, but that it does so under conditions which cannot be accounted for within the traditional framework of the theory of trade.

II. THEORIES OF RECIPROCITY

We begin by noting that there is an apparent contradiction between the theory of the gains from trade and the demands of trading countries for reciprocity. The demonstration of the gains from trade shows a country moving from isolation, that is total protection, to free trade and thereby, assuming Paretoan optimum conditions, increasing its real income. Why then should a country reducing protection typically require similar action on the part of its trading partners, as though it were suffering a loss ?

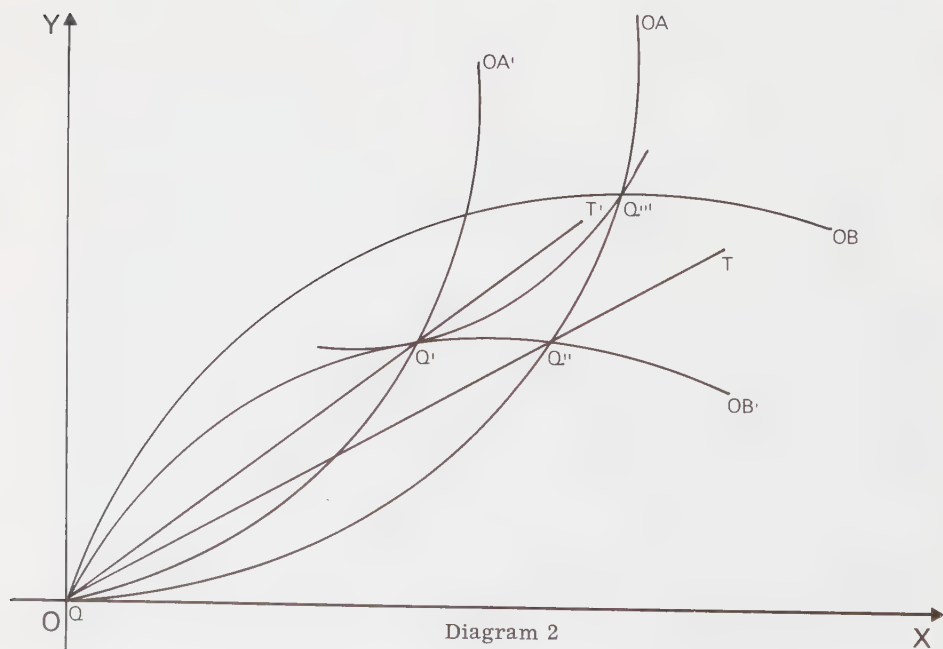
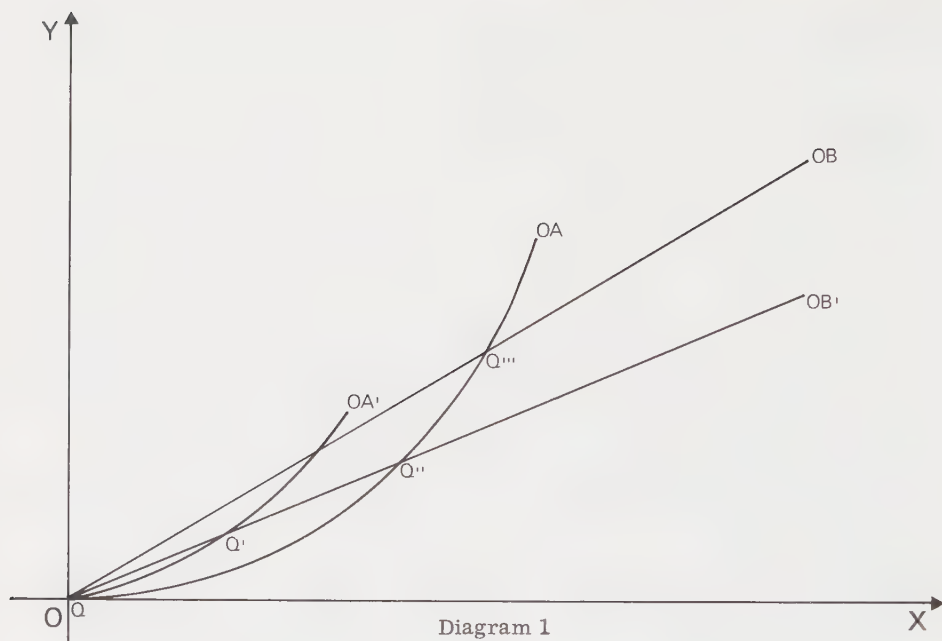
Monopoly/Monopsony

One answer is provided by the existence of monopoly-monopsony in international trade. If a country is a price-maker on international markets, the introduction of a tariff will enable it to turn the terms of trade in its favour and so to increase its real income. Ideally it will introduce the optimum tariff and so maximize its real income. For it then to abolish, or reduce, protection, will mean not a welfare gain but a deterioration in its terms of trade and a welfare loss.

The difference between this case and the previous one in which a country gained from reducing protection is most easily shown in the following diagrams. In both OA and OA' are, respectively, the free-trade and the tariff-distorted offer curves of country A, while OB' is the tariff-distorted offer curve of country B.

In Diagram 1, country A is a price-taker. The quantities of goods which it supplies to, or purchases from, the international market have no effect on its terms of trade. As it moves from isolation towards free trade at constant terms of trade, it therefore reaches successively higher levels of real income. Country A is better off with some trade (equilibrium point Q') than with no trade (equilibrium point Q), but it is better off still, and maximizes its income, if it moves from some trade (the situation under protection) to free trade (equilibrium Q'').

In Diagram 2, country A is a monopolist/monopsonist. The quantities of goods which it puts on, or purchases from, the international market affect its terms of trade and its level of real income. As it moves from isolation towards successively lower levels of protection, its terms of trade deteriorate. But from Q to Q', the optimum tariff equilibrium, country A's marginal terms of



trade are more favourable than the domestic exchange ratio until at Q' the two are equal. A's real income therefore increases between Q and Q' . Beyond Q' , the marginal terms of trade are less favourable than the domestic exchange ratio until at Q'' , A's free trade equilibrium, the domestic exchange ratio is equal to the average terms of trade. A's real income thus falls between Q' and Q'' . Hence, owing to its price-making power, A always suffers a loss from expanding its trade. From Q to Q' , the loss is not net but only relative to the level of real income which would have obtained given an expansion of trade at constant international prices. From Q' to Q'' , the loss is a net one, however.

Because of the reduction in real income it suffers, A will concede a reduction in protection only if, in turn, B concedes a reduction in protection which compensates it for the loss which it would incur if it were to dismantle alone. Starting from Q' , for instance, A will abandon protection only if, in exchange, B reduces the level of its protection in such a way as to determine the new trading equilibrium Q''' , where A has the same level of real income as at Q' . Country A, in other words, will demand reciprocity. It may be shown that if reciprocal tariff dismantling proceeds it will necessarily lead to free trade in at least one country.

The contradiction we noted at the outset is thus resolved. A country will gain from free trade as compared to isolation. But, if it is a price-maker on international markets, it will not gain from free trade as compared to optimum protection. Moreover, it will suffer a deterioration in its terms of trade whenever it expands trade, and thus a loss as compared to the level of income which it would have achieved by expanding trade at constant international prices. To reduce protection, the price-maker will therefore demand compensation. The existence of monopoly/monopsony in international trade is thus one explanation for the insistence on reciprocity. For this to be achieved given the assumptions of the analysis will require a reduction in protection in one country to be met by an equivalent reduction in the protection of the partner country.

Within the framework of the traditional theory of trade, that is of given resources, given tastes, given technology and community satisfaction defined in terms of the weighted sum of individual satisfactions, the monopoly/monopsony theory is the most ready explanation of reciprocity. Diagram 1 suggests another possibility however. This is that a price-taker which benefits from its own unilateral tariff cut requests reciprocity because this would enable it to achieve an even higher level of income, at Q''' , for instance. This, together with the case of country A moving along B's offer curve from Q to Q' in Diagram 2, may be the situations Bhagwati had in mind when he objected that the demand for reciprocity may be prompted by the desire to be better off rather than to compensate for loss 'even within the traditional framework'.¹⁶ But note that if the country which reduces its level of protection suffers no actual loss, as was the case for the price-making country moving from Q' to Q'' , it nevertheless suffers a loss as compared to its situation given reciprocal action by its trading partner. For in the absence of reciprocity it gives up potential income. Thus, while the case of the price-taker wishing to avoid a potential loss of income constitutes a second, no doubt less general, explanation of reciprocity within the traditional framework, it nevertheless constitutes a further instance of the principle of compensation.

Collective Preference

Outside the traditional framework, a third answer has been developed to the question of why countries should wish to be paid for tariff reduction. The theory, advanced by Professor Johnson, no longer equates the satisfaction of the community with satisfaction of the individuals who constitute it, but supposes the satisfaction of the community to consist of two parts, the satisfaction of private individuals, on the one hand, and the collective satisfaction of the community, on the other. ^{17/} It is this assumption together with the hypothesis that the goods produced for collective consumption are provided at the expense of production for private satisfaction by means of a tariff, that enables Johnson to construct his explanation of reciprocity.

He begins by assuming, following Downs, ^{18/} that competition for office in democratic societies but also, if no doubt to a lesser extent, in dictatorships, leads to the adoption of policies that tend towards the maximization of the satisfaction of the electorate. This satisfaction proceeds both from the satisfaction of the individuals who make up the community and from the community's collective satisfaction. The latter is achieved by the consumption of goods provided by government action at the cost of private consumption. In Johnson's model, these goods are industrial products which are supplied by the government's introduction of a tariff to satisfy the community's collective preference for industrial production.

The government's choice of the tariff as the instrument for channelling resources from production for private consumption to production for public consumption is justified by the fact that the tariff is invariably favoured for purposes of increasing production beyond the level which it would attain in the free market.

Assuming that the government is rational, the satisfaction of the community will be achieved by introducing a tariff which will enable both private and collective satisfaction to be achieved, that is by introducing a tariff which will enable the marginal cost of industrial production for private consumption to be equal to its marginal value, while at the same time equating industrial production's marginal value in collective consumption to its marginal excess private cost under protection. In this way, the country's real income will be maximized although its real product will not owing to the fact that the satisfaction of the collective preference carries with it a production cost. This is illustrated in Diagram 3.

In this figure, S_w is the infinitely elastic world supply of industrial production, DD is the 'constant-utility' demand curve and SS the domestic supply curve. In the absence of government intervention the price on the domestic market will be the world price P_w , domestic production will be given by the distance between the origin of the axes and the projection of K on to the horizontal axis, consumption will be given by the distance between the origin of the axes and the projection of A on to the horizontal axis, and imports will be the difference between consumption and production.

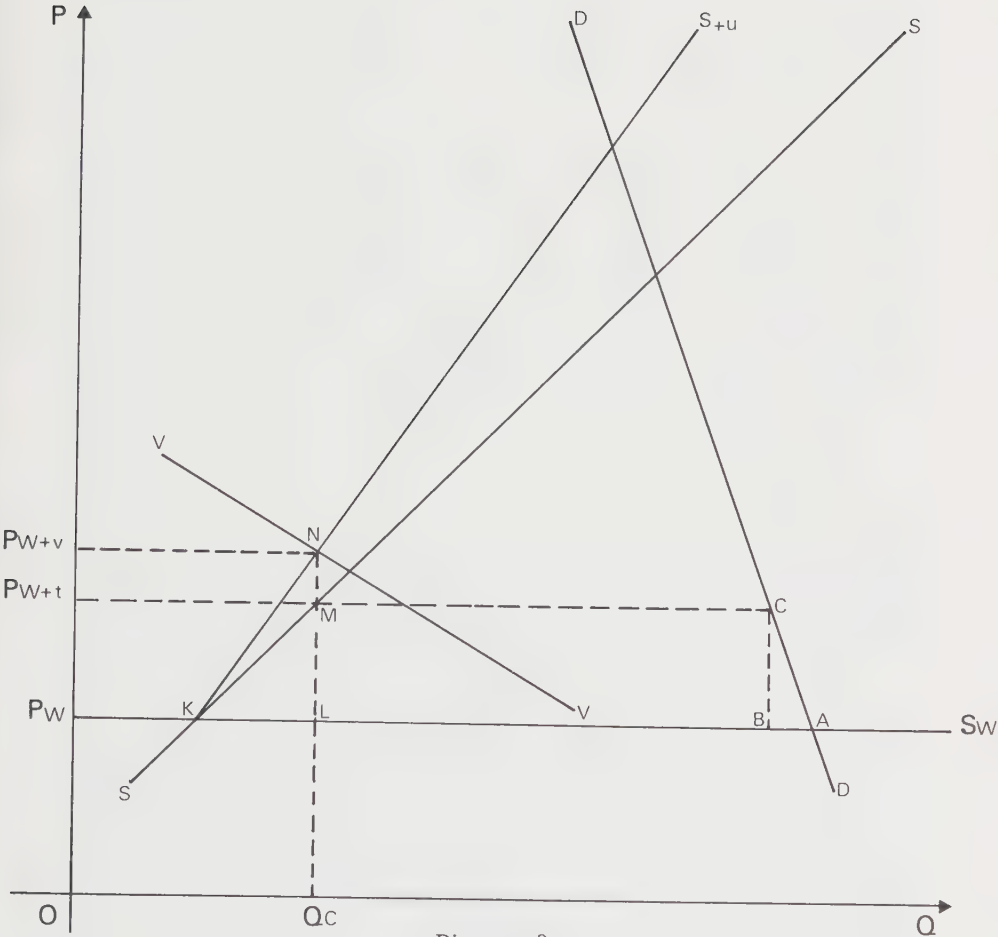


Diagram 3

When the government intervenes by introducing a tariff which raises the price of industrial production on the domestic market, this increases domestic industrial production and reduces consumption, thereby reducing imports. The marginal private cost of protected industrial production will therefore have both a production and a consumption element. The marginal private cost of protected industrial production in excess of the cost of industrial production under free market conditions, which is the measure of the marginal cost of industrial production as a collective consumption good, will be composed of the private excess production cost of the marginal unit of protected industrial production, which will be equal to the tariff, and of the private excess consumption cost of the marginal unit of production, which will be equal to the loss in consumers' surplus due to the restriction in consumption resulting from the tariff which induces the marginal unit of protected industrial production. Thus, if to the domestic supply curve to the right of K , which represents the marginal cost of protected industrial production we add the marginal private excess consumption cost of protected industrial production, we obtain KS_{+U} whose vertical distance at any point from S_W will measure the marginal private excess cost of protected industrial production. The area between SS and KS_{+U} for any tariff rate will be equal to the loss in consumers' surplus attached to that rate of protection. In Diagram 3 the area KMN is thus taken to be equal to the area ABC .

Given the community's collective preference for industrial production, the government, acting rationally, will equate the marginal value of the collective consumption good to its marginal cost. The marginal cost of industrial production as a collective consumption goods is, we have seen, the marginal private excess cost of protected industrial production which is measured by the vertical distance between KS_{+U} and S_W . The marginal value of the collective consumption good is given by the vertical distance between VV , the demand for protected industrial production and S_W which represents the value of industrial production to the private consumer under free market conditions. The equality between the marginal value of the collective consumption good and its marginal cost is then represented by the intersection of VV and KS_{+U} . The government will therefore set its tariff so as to elicit the rate of industrial production which is consistent, geometrically, with the intersection of these two curves. In diagram 3 it will therefore set its tariff at t , which induces industrial production OQ_C . By so doing, the government will have maximized the country's real income, which, we saw, is measured in terms of the satisfaction derived from the consumption of both private and collective consumption goods, but, as noted, not its real product.

If the country's collective preference for industrial goods is very strong, it may require the introduction not of a tariff, but of an export subsidy. This would also be the solution for a country exporting industrial production whose collective preference was not satisfied at the free trade level of exports. The present convention against export subsidies, duly reflected in the Gatt, means, however, that subsidies are not normally resorted to and this, in turn, implies that only importers of industrial production will be in a position to maximize real income.

Johnson's conclusions are the following. In the case of a two-country model in which one country is an exporter of industrial production and the second an importer of industrial production, considered in both cases as an aggregate, bargaining can only take place if both countries introduce tariffs for monopoly-monopsony reasons. In contrast to the simple monopoly-monopsony model, however, reciprocal tariff dismantling will not necessarily lead to free trade in at least one country, for the presence, in the importing country of a tariff introduced for other than monopoly-monopsony reasons, may effectively exclude this.

If industrial production is assumed not to consist of one product, but of a number of products, countries will be both exporters and importers of industrial production and, given the collective preference for industrial production, will all practice some degree of protection. The disaggregation of industrial production will make it unnecessary to introduce monopoly-monopsony power to explain universal protection or tariff bargaining and, if it is assumed that the preference for industrial production is general, that it does not discriminate between products, and that reciprocal tariff bargaining takes place as before between two countries, one of which is a net industrial exporter and the other a net industrial importer, it will follow that bargaining will lead one country at least and perhaps both to free trade. The reason for this will be that tariff bargaining will enable the two countries to gratify their collective preference for industrial production by replacing protected industrial production to which an excess cost is attached by exports which do not bear such a cost.

If, on the other hand, the collective preference for industrial production differs as between industries neither country need reach free trade. For a point may be attained where the collective marginal value attached to a protected unit of import-competing production will be greater than the collective marginal value of the unit of exports which would be substituted for it as a result of reciprocal tariff reduction.

If the two-country model is abandoned and replaced by a model of many countries and these are initially assumed to negotiate bilaterally but on a most-favoured-nation basis, the result of reciprocal tariff reduction may not be free trade even in the case of one country. The reason for this is that a country's tariff reduction will tend to increase its total imports of a product by more than its imports from its partner country. Sooner or later the only reciprocal tariff reductions possible will be those which reduce industrial production in one or both countries. This may be initially profitable if the loss in collective satisfaction is more than offset by the accompanying gain in real product. But this gain will diminish as industrial production is reduced for the excess cost of the marginal unit will either be constant or diminishing whereas the collective satisfaction attached to the marginal unit will increase.

In a multi-country world where negotiations take place on a multilateral basis, Johnson concludes that it may well be possible to rank countries according to their industrial strength and in inverse relation to their degree of protection. The strongest country could then always gain by offering free trade in return for tariff concessions. But whether other countries would achieve free trade

would depend partly on the order in which negotiations took place, as well as on the way in which the gains from tariff reduction were distributed amongst the negotiating countries.

Thus, in contrast to the optimum tariff theory, Johnson presents an explanation of reciprocity in which the loss to the tariff reducer occurs not as a result of a deterioration in its terms of trade, but as a result of the loss in the collective satisfaction attached to a particular activity, in his case industrial production. Reciprocity will thus no longer take the form of a tariff reduction which produces a compensating change, but will be achieved as the result of a concession which allows for a compensating expansion of the activity which procures collective satisfaction.

The idea of collective satisfaction derived from industrial production has, meanwhile, also been used by Bhagwati ^{19/}, who has analysed the insistence of the developing countries on reciprocity within preferential arrangements among themselves and the particular form taken by this demand for reciprocity, namely the attention paid to incremental trade flows, rather than to equivalent reductions in tariffs. He draws the conclusion that if the idea of the intrinsic value attached to industrial production by the negotiating partners is accepted, and, additionally, the assumption is made that the consumption gains resulting from tariff cuts are ignored, then the demands of the developing countries for reciprocity amongst themselves are given an economic justification just as the particular form taken by the reciprocity demands is explained. Bhagwati, thus, does not offer a new theory of reciprocity, but, instead, makes use of the idea of the collective satisfaction derived from industrial production to explain a part of the developing countries' behaviour.

III. THE EAST-WEST RECIPROCITY FORMULA

In the case of East-West trade, we have seen that although it was suggested that 'effective reciprocity' should be measured in terms of the increase in the volume and 'composition' of trade, the actual formula devised in the cases of Poland and Romania proposes an exchange of Western tariff and quota concessions against an increase in the trade of the East European partner. The formula therefore is not directly discussed in either of the theories just considered. But it may be related to them if we can show the existence of monopoly/monopsony power or of a collective preference satisfied by removing resources from production for private consumption to production for public consumption by means of a tariff, or an equivalent instrument of trade control.

There is evidence of price-making power by the Western countries in their trade with their East European partners. Thus Holzman ^{20/} attributes the relatively low prices of Eastern exports to the preference of Western nations for trading among themselves and to the need for bloc nations to undercut world prices; to the difficulty East European nations have in fulfilling bilateral agreements with the West and their consequent reduction of prices in order to sell more and avoid paying deficits in hard currencies in accordance with the practice laid down in most clearing agreements; and to the occasional need to lower export prices in order to absorb non-preferential tariffs or the

cost of bilateral controls. He reports that "in the case of Czechoslovak exports to the West, these added costs have been estimated to have amounted, on the average, to from 5-10 per cent of price and to have required comparable reductions in export (f.o.b.) prices". ^{21/} Symmetrically, he attributes the relatively high prices of Eastern imports to the preference of the West for selling to the West ; to the unwillingness of the West to sell at world prices under bilateral agreements in which payment may be in commodities of uncertain quality ; to premia for importing goods on the embargo list and to the cost of procuring licences. More recently, the socialist countries themselves have complained that the Western "administration of licensing tends to increase their costs, diminish their profits ..." ^{22/} Thus Western restrictions on trade with the East European countries seem to have turned the terms of trade in the West's favour.

There is also evidence, as we show particularly in Chapter I, Appendix III, of a collective preference for industrial production in the East which has certainly been at least partially satisfied by channelling resources from private to public consumption by means of high protection. But such a preference is not so evident in the West where, in fact, it has been suggested that there may be a preference for agriculture. ^{23/} Johnson's theory, though explaining the developing countries' behaviour, would thus seem less easily applicable to East-West bargaining. Consequently, in view of the evidence of Western monopoly/monopsony power, we have decided to leave it to one side.

Within the traditional framework, it is clear from our previous discussion that a mere increase in trade is not sufficient to compensate for a remission of trade taxes resulting in a deterioration in the terms of trade and, hence, that the East-West formula cannot achieve reciprocity for the Western countries. If we substitute the West for country A and the East for country B in Diagram 2, and we suppose the West to be at Q', then a reduction in its trade barriers resulting in a deterioration in its terms of trade will, despite the ensuing trade expansion, leave the West worse off than before. Again, if the West is initially on a point of the East's offer curve between Q and Q', then although the deterioration in its terms of trade following a reduction in trade barriers will be more than offset by the resulting expansion of trade, the West will still lose as compared to the situation which would have obtained had the expansion taken place at constant international prices. For compensation to be awarded the West in both these cases, a reduction in the East's level of protection would be necessary. But such a reduction is not required under the East-West formula which stipulates only that the East European countries must increase their imports from their Western partners. The conditions under which the formula will be effective must therefore be looked for within another framework. We suggest that it differ from the one just considered only in allowing for growth and for governments whose policies determine the level of activity and the pattern of growth.

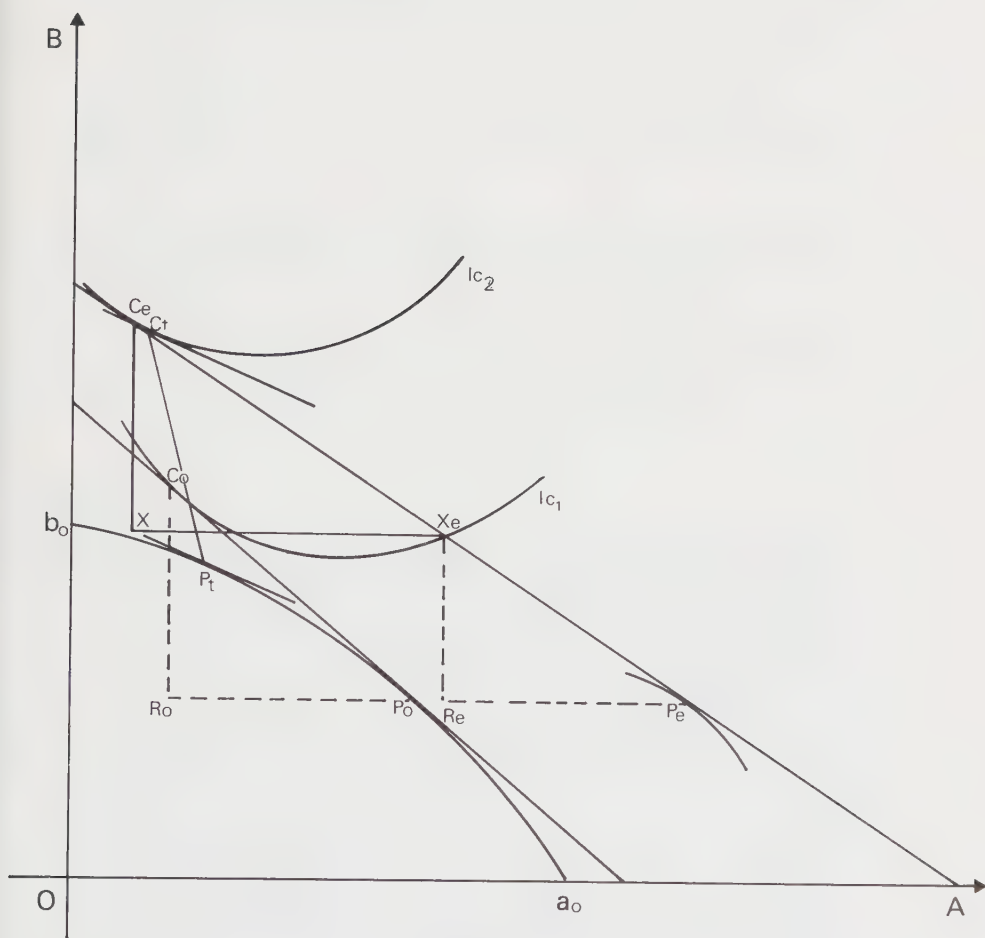
Given growth, a price effect, in this case the deterioration in the terms of trade following a reduction in protection, can be offset by a rise in real income. The rise in real income can constitute the compensation required for reciprocity by the country reducing its level of protection. For the rise in real income to constitute reciprocity it must be achieved by a rise in trade

made possible, after negotiation, by the active promotion of the first country's trading partners. This promotion may take the form of a reciprocal reduction in protection. But it may also consist in a decision to promote growth. Within this framework, therefore, an increase in trade can compensate a country which has suffered a deterioration in its terms of trade as a result of reducing protection. This is shown in Diagram 4. The East-West formula, in other words, can achieve reciprocity for the Western countries.

a_0b_0 , in Diagram 4, is the original production frontier of the country reducing protection. Given a tariff it produces at P_t and, thanks to the terms of trade effect of its trade restriction, consumes at C_t on I_{C2} . When it abolishes its protection it suffers a real income loss and, producing at P_0 , consumes at C_0 on I_{C1} . The economy then expands so that its frontier is pushed out and, assuming that its growth leads to an increase in its demand for imports and that it remains a monopolist-monopsonist on world markets, its terms of trade turn against it yet further. Given the new terms of trade, the country's original, free trade volume of trade measured in exports enables it to reach I_{C1} . Consumer equilibrium will only be reached in I_{C2} , however, so that the volume of exports XX_e can be regarded as measuring the increase in trade associated with growth necessary to lead to an increase in real income just equal to the reduction in real income suffered by the country as a result of the deterioration in its terms of trade. For this increase in trade to constitute the reciprocity demanded by the country reducing protection, it is necessary that it be determined, after negotiation, by the action of the country's trading partners.

Conclusion

We conclude therefore that the East-West formula will not achieve reciprocity for the West within the traditional monopoly/monopsony framework. We have suggested that it would be difficult for it to do so within the framework elaborated by Johnson. We have shown that it would achieve reciprocity for the Western nations in a system allowing for growth and for governments whose policies determine the level of activity and the pattern of growth. Within this system, reciprocity for the West would be achieved provided the increase in trade required to compensate it for the reduction in its level of protection was actively promoted, after negotiation, by the West's Eastern partners. It would not need to result from a reduction in East European protection, however.



NOTES

1/ The Concise Oxford Dictionary. Oxford, Oxford University Press, fourth edition, 1959 ; p. 1013.

2/ See JOHNSON, Harry G. : Economic Policies towards Less Developed Countries. London, George Allen and Unwin, 1967 ; p. 133.

The loss need not be absolute, but only relatively to the situation which would obtain if reciprocity occurred, or if a loss attached to a unilateral concession did not occur

3/ This was the form of the clause employed almost continuously by the United States between 1778 and 1923. Concessions were extended to third parties benefitting from the conditional clause only after they duly 'paid' for them.

4/ Such restriction was widely practised during the nineteen-thirties and often made it impossible for third parties to claim a concession. But one of the most amusing instances of this practice remains the concession on "Large dapple mountain cattle, or brown cattle, reared at least 300 meters above sea level and grazing at least one month at a minimum height of 800 meters above sea level" which was granted by Germany to Switzerland in the bilateral treaty of 12 April 1904. See on this, and on the fate of the clause during the nineteen-thirties, CURZON, Gerard : Multilateral Commercial Diplomacy. London, Michael Joseph, 1965, p. 60.

5/ Whether quotas are filled on a first-come, first-served basis, by dividing them equally among the suppliers of a given good in a given year, by dividing them among suppliers according to their proportionate share of the shipments of a given product in a given year, or by dividing them according to the currencies available, their implementation requires administrative intervention which makes the quantitative regulation of imports inconsistent with the principal of non-discrimination embodied in the most-favoured-nation clause.

6/ This was the principle embodied in the United States' Trade Agreements Act of 1934, and then in the General Agreement on Tariffs and Trade where, during the period of product-by-product negotiations, the restrictive character of the device was tempered by allowing a number of countries to club together to become the principal supplier and where parties not directly involved in a negotiation were continuously consulted. See CURZON, Gerard : Multilateral Commercial Diplomacy ; pp. 72-75. The linear principle of tariff reduction which succeeded the product-by-product method should have led to the abandonment of the principal supplier rule, but seems at the same time unlikely to guarantee reciprocity. This seems to have been one of the lessons of the Kennedy Round where linear cuts were first introduced among Gatt members. (CURZON, Gerard and Victoria : After the Kennedy Round, What Trade Policies Now ? London, The Atlantic Trade Study, 1968, pp. 14/15). This raises the question as to whether the linear principle is suitable for world-wide negotiations between countries expecting reciprocity.

- 7/ This is illustrated by the abandonment of the reciprocity requirement in favour of the developing countries in Part IV of the General Agreement on Tariffs and Trade.
- 8/ TAUSSIG, Frank W. : "Reciprocity." Free Trade, the Tariff and Reciprocity. New York, The Macmillan Company, 1924 ; pp. 121/122.
- 9/ BHAGWATI, Jagdish : "Trade Liberalization among LDC's, Trade Theory and Gatt Rules." Value, Capital and Growth, Papers in honour of Sir John Hicks, J.N. Wolfe (Ed.), Edinburgh, Edinburgh University Press, 1968, (hereafter BHAGWATI, "Trade Liberalization") ; p. 25.
- 10/ The forum for these talks was the Economic Commission for Europe's Committee on the Development of Trade especially as from 1959 when it held its special meeting on the organization and techniques of foreign trade.
- 11/ Preliminary Report of Ad Hoc Group to Twelfth Session of the Committee on the Development of Trade, TRADE/140, TRADE/Ad Hoc Group 1/2, 2 October 1963 ; p. 10. The full quotation is "effective reciprocity/mutual advantage should be measured in terms of concrete and comparable results, i.e. the increase in the volume and composition of trade between countries with different systems which would satisfy the trading partners and would serve as a basis for its further development on a long-term and balanced basis "; This could be clearer. Presumably "... increase in the ... composition of trade" means "evolution" or "extension" of the composition of trade.
- 12/ Ibid., p. 11.
- 13/ Poland's undertaking is in terms of the total value of its imports from contracting parties, but the annual review of trade between Poland and the contracting parties provides for an examination of the "quantities or values", in that order, of Polish imports during the period, and contracting parties, under certain conditions, are allowed to apply sanctions on Polish trade if they consider that the quantity or value of Polish imports during the period under review has not reached the expected level. Accession of Poland, Report of the Working Party. L/2806, 23 June 1967 ; p. 14.
- 14/ Ibid. ; p. 6.
- 15/ GATT, L/3601, 21 October 1971, pp. 2 and 7.
- 16/ BHAGWATI, "Trade Liberalization", p. 40.
- 17/ JOHNSON, Harry G. : "An Economic Theory of Protectionism, Tariff Bargaining, and the Formation of Customs Unions." Journal of Political Economy, June 1965.
- 18/ DOWNS, Anthony J. : "An Economic Theory of Democracy." New York, Harper and Bros., 1957.
- 19/ BHAGWATI, "Trade Liberalization".

- 20/ HOLZMAN, Franklyn D. : "More on Soviet Bloc Trade Discrimination," Soviet Studies, July 1965.
- 21/ Ibid., p. 52.
- 22/ UNCTAD, TD/B/128/Add.3, p. 22.
- 23/ JOHNSON, Harry G. : "An Economic Theory of Protectionism, Tariff Bargaining, and the Formation of Customs Unions" ; p. 258.

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